Control Sheet

Issue date	Revision number	Reason	Pages affected
08.15.2005	00	New release (FM4683)	All pages
11.10.2005	01	Corrections (FM4750)	All pages

CR-IR 357 Service Manual

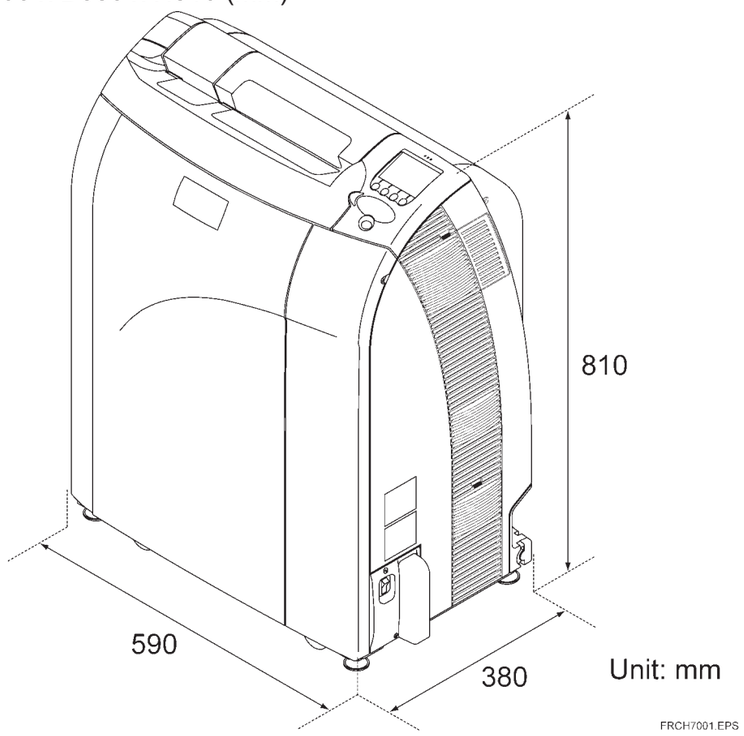
Installation (IN)

1. Specifications of Machine

1.1 Dimensions and Weight

■ Dimensions

W590 x D380 x H810 (mm)



Unit: mm

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■ Weight

105 kg approx.

1.2 Means for Moving and Fixing the Machine

■ Moving Means

Double-wheel caster (variable-direction/no-brake) x4

■ Fixing Means

- Adjustable foot x4
- Anti-topple retainer: 1 set

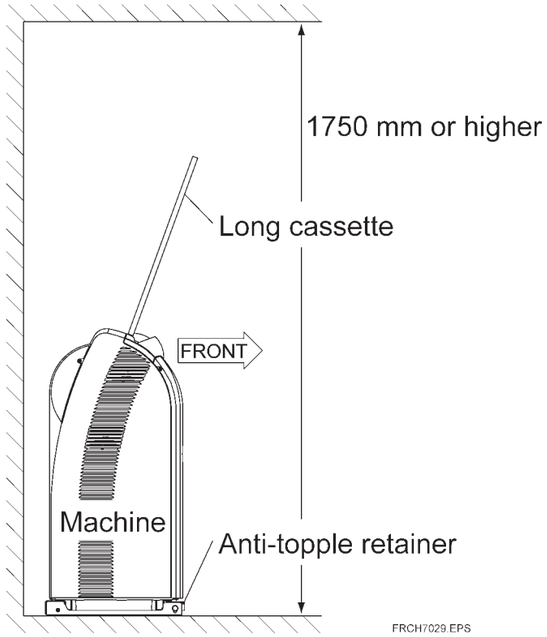
1.3 Servicing Space

The following four kinds of installation patterns are available:
- Retaining with the adjustable feet;
- Retaining the machine by the anti-topple retainer;
- Installing the machine at a user's site where long cassettes are used;
- Using the supporter

Note that the installation space and the retaining method are limited at a user's site where a long cassette is used.

⚠ *WARNING*

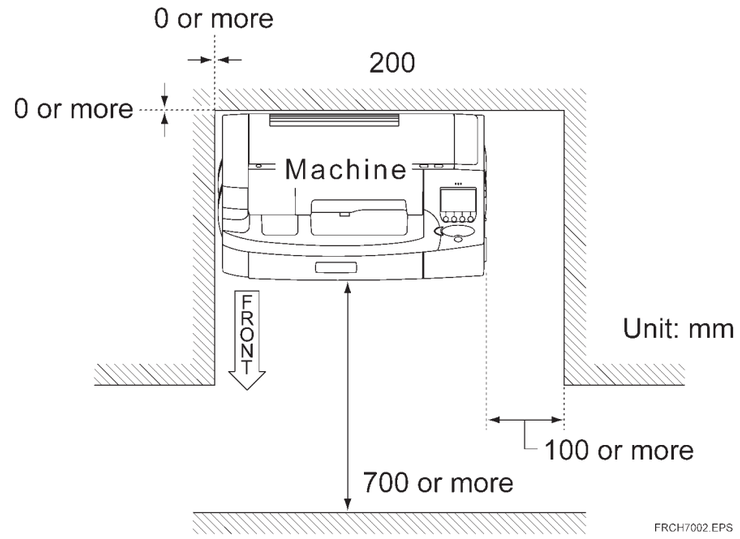
Be sure to observe the following cautions at a user's site where long cassettes are used.
- ***Fix the machine to the floor by the anti-topple retainer.***
- ***Install the machine where the ceiling height is 1750 mm or higher.***



1.3.1 Retaining with the Adjustable Feet

Shown below is the installation space where the machine is retained with the adjustable feet. When the machine is retained with the adjustable feet, the long cassette cannot be used.

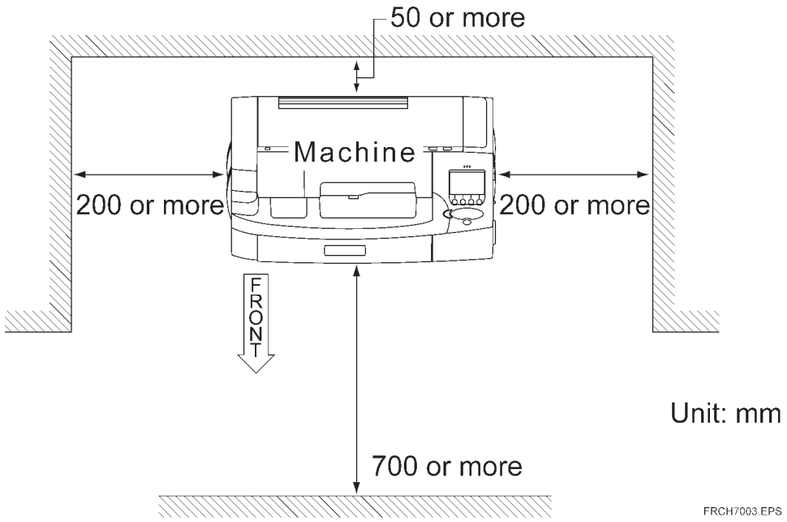
- **Top view**



1.3.2 Retaining the Machine by the Anti-Topple Retainer

Shown below is the installation space where the machine is fixed to the floor by means of the optional anti-topple retainer as demanded by the user.

- **Top view**



Unit: mm

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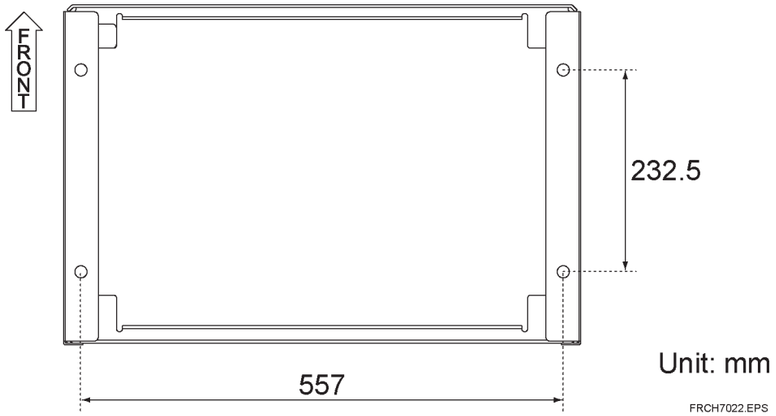
- **Hole locations of the anti-topple retainer**



Unit: mm

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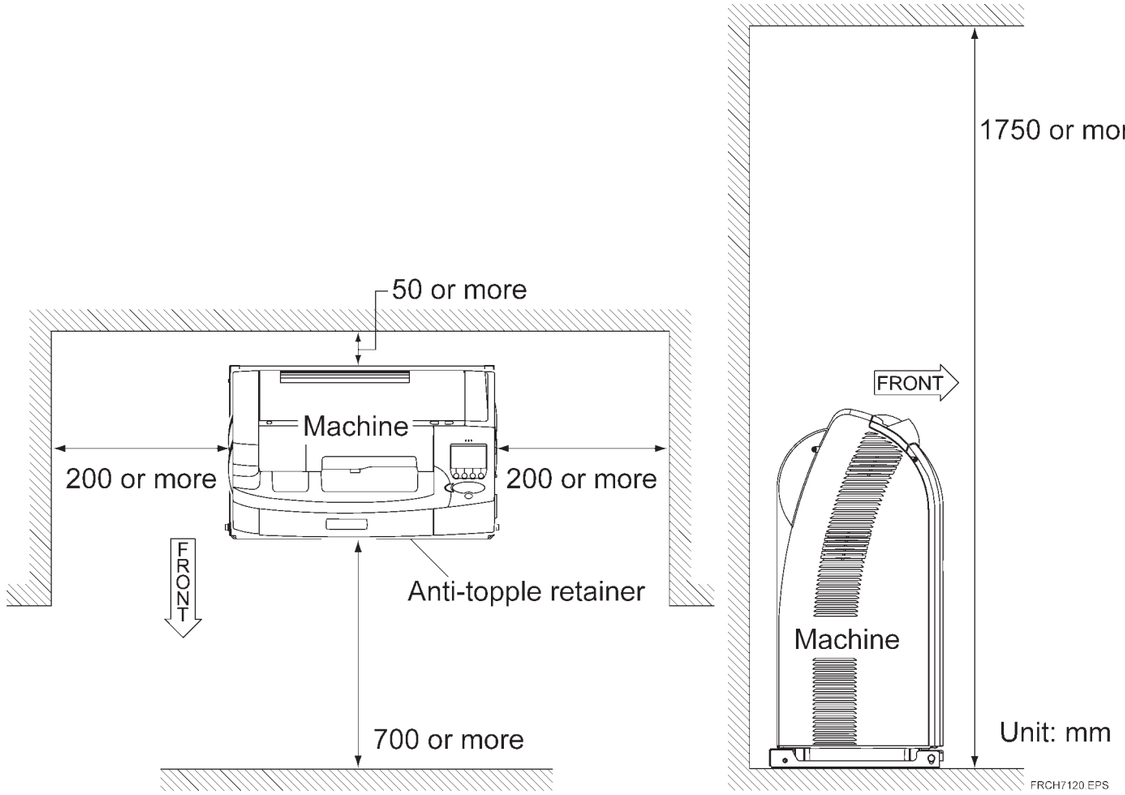
1.3.3 Installing the Machine at a User's Site where Long Cassettes are Used

Shown below is the installation space where the machine is installed at a user's site where long cassettes are used.

- **Top view and side view**



Unit: mm

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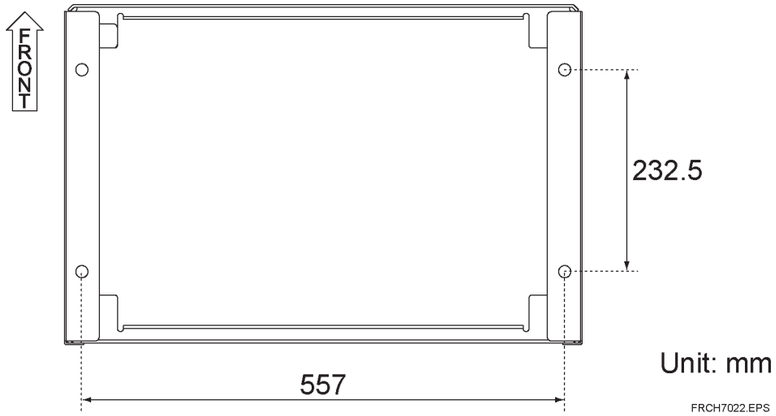
- **Hole locations of the anti-topple retainer**



Unit: mm

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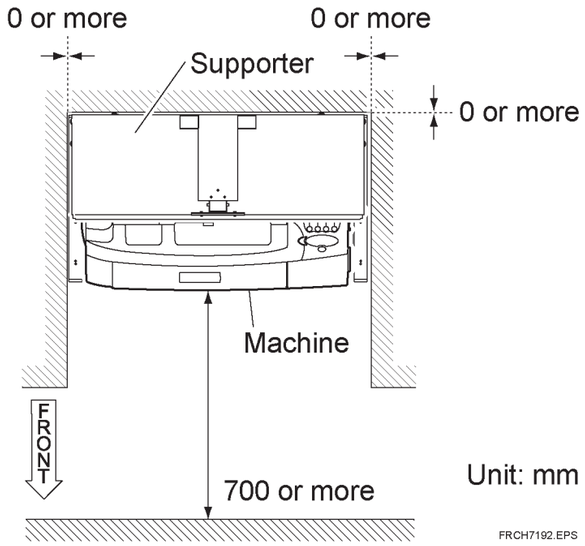
1.3.4 Using the supporter

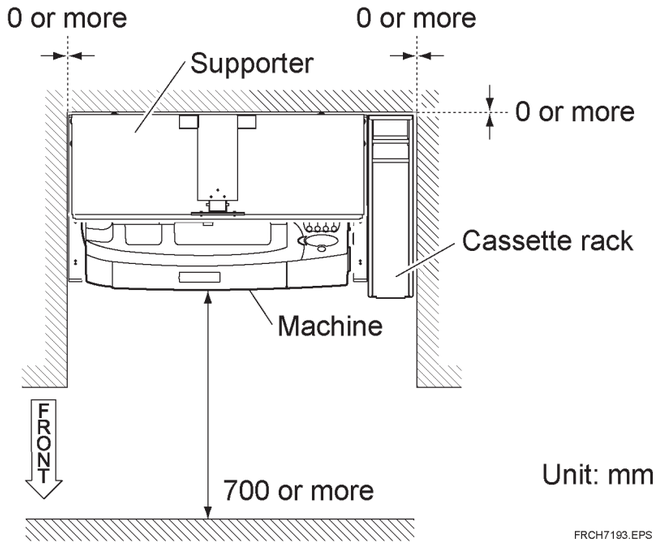
When the supporter is used for installation, the installation space is as indicated below.

- **Installation space required for the supporter only**



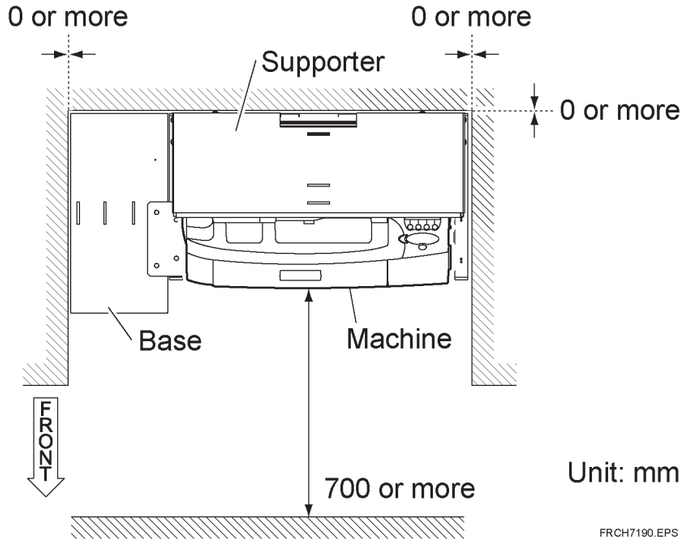
- **Installation space required when the cassette rack is attached to the supporter**

The cassette rack mounting position and installation space are left-right symmetrical.



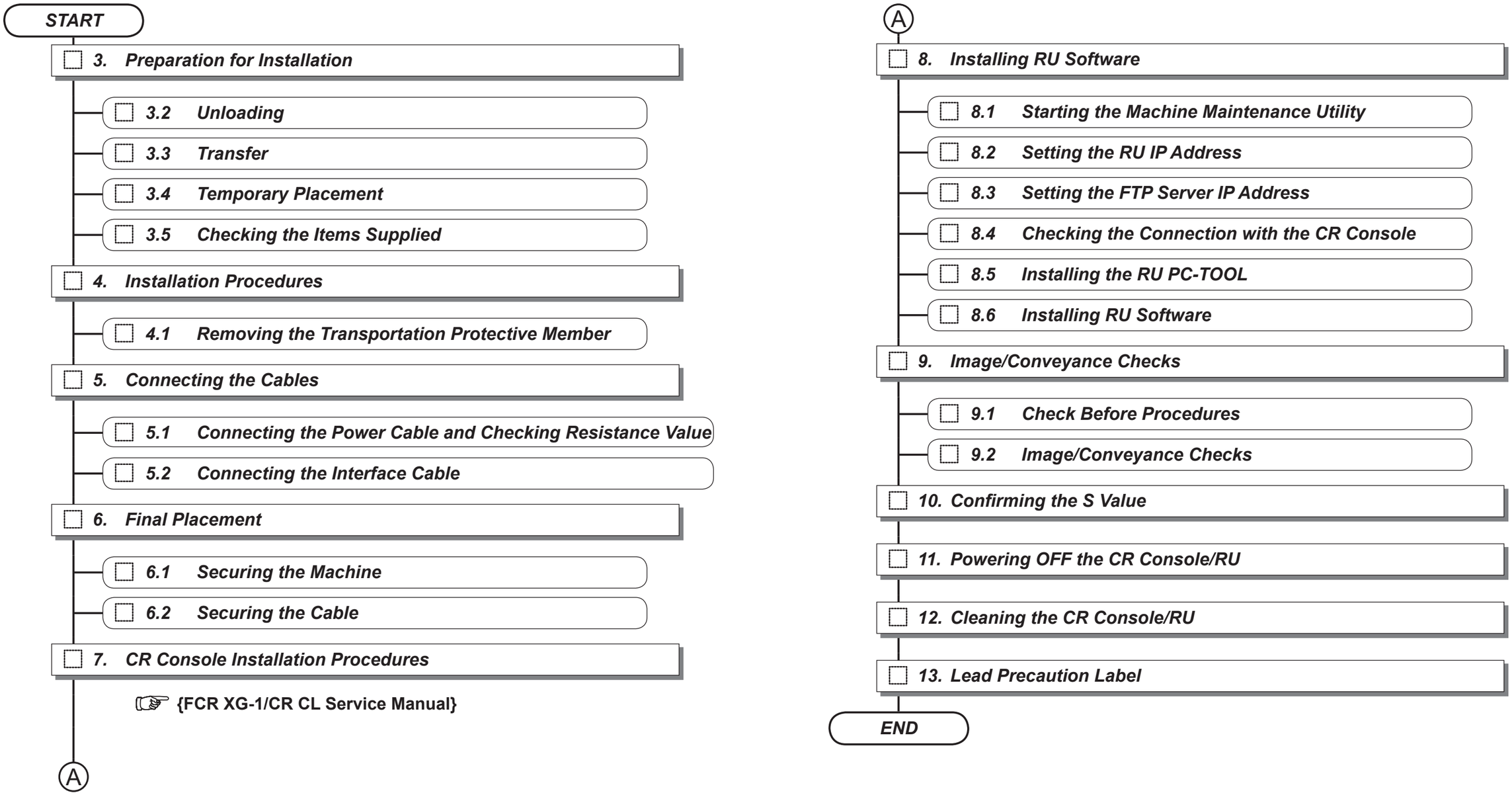
- **Installation space required when the base is attached to the supporter**

The base mounting position and installation space are left-right symmetrical.



2. Installation Work Flowchart

■ Workflow for First-Time Installation


START
3. Preparation for Installation
3.2 Unloading
3.3 Transfer
3.4 Temporary Placement
3.5 Checking the Items Supplied
4. Installation Procedures
4.1 Removing the Transportation Protective Member
5. Connecting the Cables
5.1 Connecting the Power Cable and Checking Resistance Value
5.2 Connecting the Interface Cable
6. Final Placement
6.1 Securing the Machine
6.2 Securing the Cable
7. CR Console Installation Procedures
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A
A
8. Installing RU Software
8.1 Starting the Machine Maintenance Utility
8.2 Setting the RU IP Address
8.3 Setting the FTP Server IP Address
8.4 Checking the Connection with the CR Console
8.5 Installing the RU PC-TOOL
8.6 Installing RU Software
9. Image/Conveyance Checks
9.1 Check Before Procedures
9.2 Image/Conveyance Checks
10. Confirming the S Value
11. Powering OFF the CR Console/RU
12. Cleaning the CR Console/RU
13. Lead Precaution Label
END

3. Preparation for Installation

3.1 Precautions Regarding Installation

The place where the machine is to be installed needs to meet the criteria set forth in "Getting Started" and "3.1.1 Installation Site Requirements." Preinstallation procedures should be performed beforehand for necessary construction work, electrical work, and air-conditioning system installation.

3.1.1 Installation Site Requirements

Avoid the following installation sites:
- Places where the temperature changes drastically.
- Places near heat sources such as heaters.
- Places where water leakage or equipment submersion may occur.
- Places where corrosive gas may be generated.
- Dusty places.
- Places where the machine is subject to constant or excessive vibration or shock.
- Places that are exposed to direct sunlight.
- Places that are exposed to X-rays while the machine is processing.
  Make sure that the machine will never be exposed to direct and scattered X-rays while the machine is processing.
  The size and position of the X-ray shields should be such that the machine is completely shielded to avoid exposure of direct and scattered X-rays to the machine.

- **When installed in the patient environment**
  In the room where the machine is to be installed, the hospital-grade grounding terminal and outlet should be provided.
  The installation place should be within reach of the cable of the patient environment support cable kit from the hospital-grade grounding terminal and outlet.

- **When installed in other than the patient environment**
  Make sure that persons other than routine operators of the machine will not touch the machine inadvertently.

3.1.2 Precautions on Patient Environment

■ **Additional Protective Grounding**

If the RU is installed in the patient environment with the connected equipment in the non-medically used room, the additional protective grounding will be required.
Definitions of "patient environment", "medically-used room", and "non-medically used room" are given below.

- **Patient Environment**
  Patient environment is the area for the patient to receive medical procedures (treatment, tests, diagnosis, monitoring).It is the space measuring 2.5 m in all four directions and 2.5 m in height from the area of the patient's body. It excludes the space traveled by the patient to reach the medically-used room.

- **Medically-Used Room**
  Room equipped with protective grounding (medical use outlet or medical use grounding terminal) implemented by the medical grounding method. The protective grounding inside the medically-used room is equipotential, and the protective grounding of this medically-used room is equipotential to that in the other medicallyused room. Generally, a portion of the medically-used room is the patient environment.

- **Non-Medically Used Room**
  Areas outside the medically-used room are considered the non-medically used room.

3.1.3 Handling Precautions for Printed Circuit Boards and Optical Unit

When servicing a board or optical unit, use a wristband to ground your body.
If you body is not grounded, the electrostatic buildup on your body may damage the electronic parts.

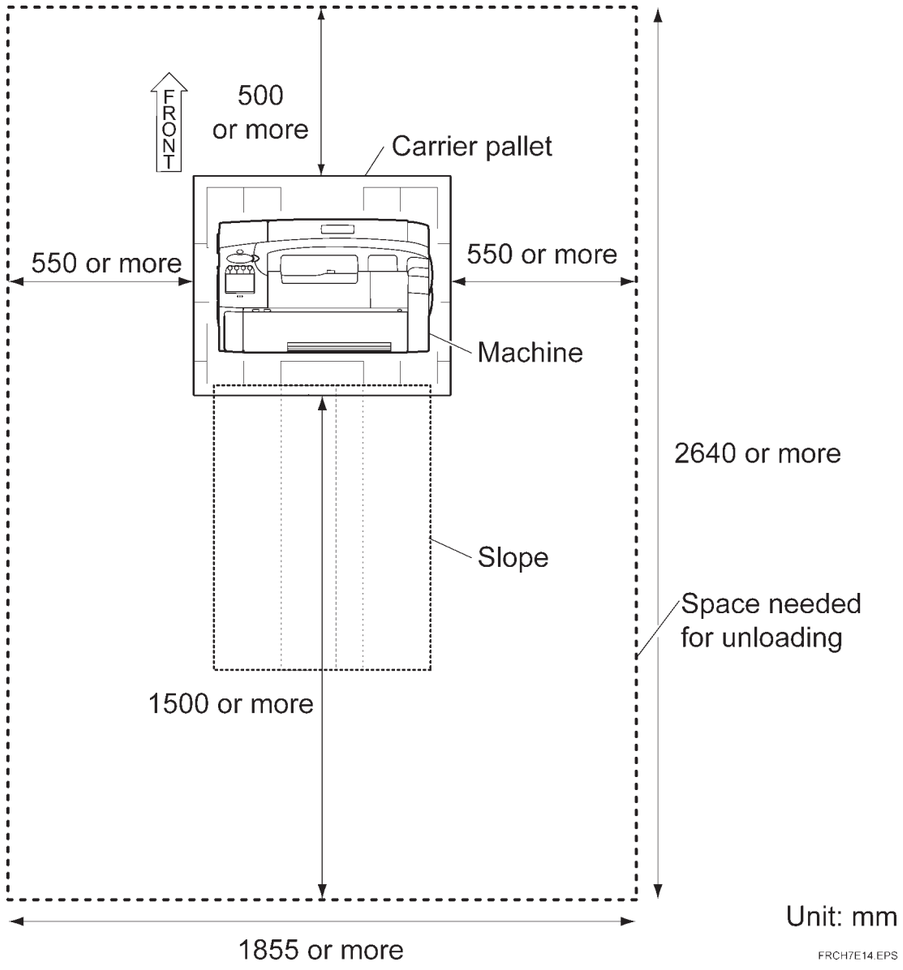
3.1.4 Precautions for System Connection

"Accessory equipment connected to be the analog and digital interfaces must be certified according to the respective IEC Standards. Furthermore all configurations shall comply with the medical system standard, IEC60601-1-1. Everyone who connects additional equipment configures a medical system, and is therefore responsible that the system complies with the requirements of IEC60601-1-1. If in doubt consult with the your local technical service representative."

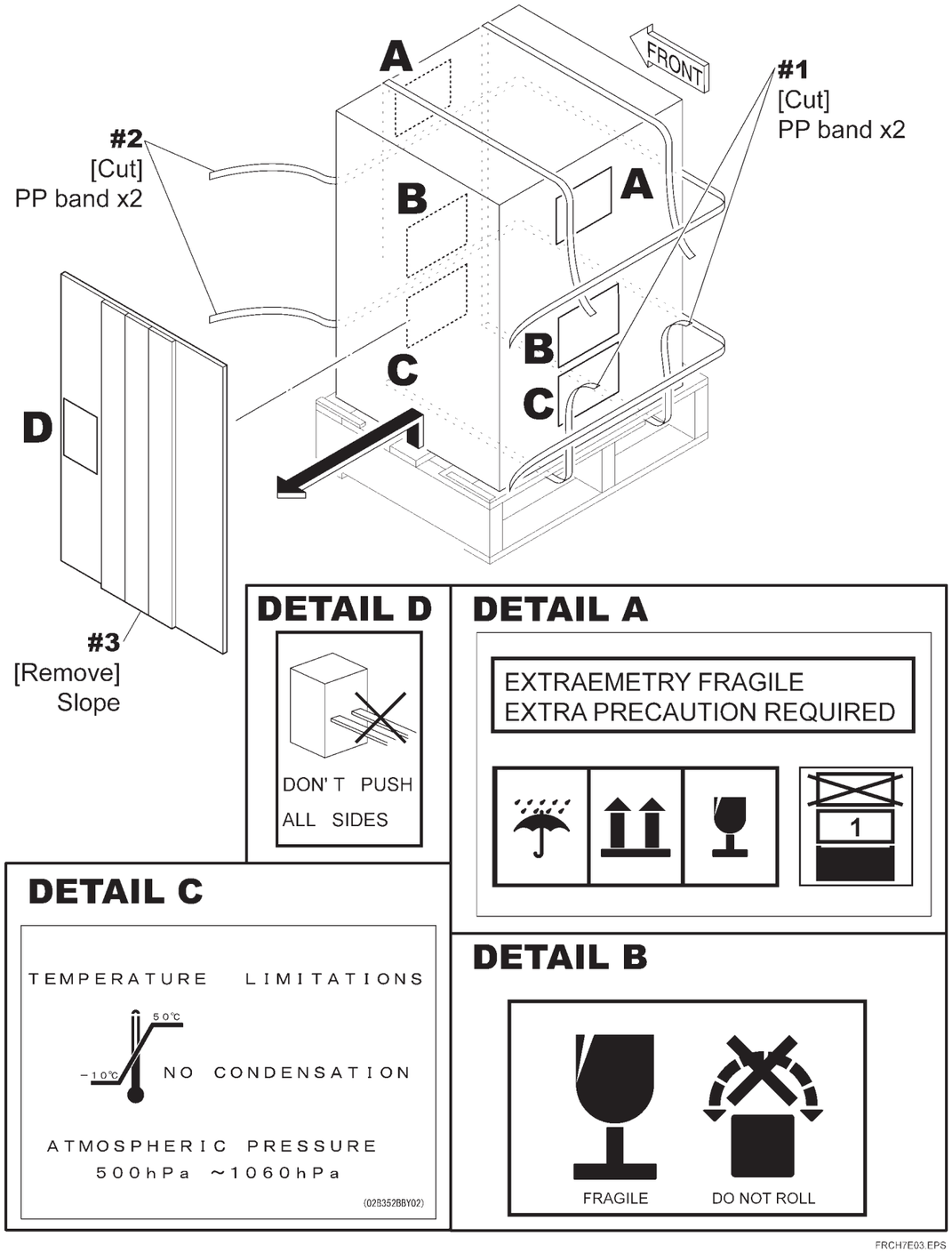
3.2 Unloading

⚠ CAUTIONS

- *When unloading the machine, two persons should always cooperate to do so.*
- *Before unloading the machine, secure a proper machine transfer route.*
- *Unload the machine on a flat space as close to the installation space as possible. If there are many steps or bumps in the machine transfer route, load may be applied to casters, causing damage.*
- *Secure a necessary space for unloading, before unloading the machine together with the carrier pallet from the load-carrying platform of the truck.*



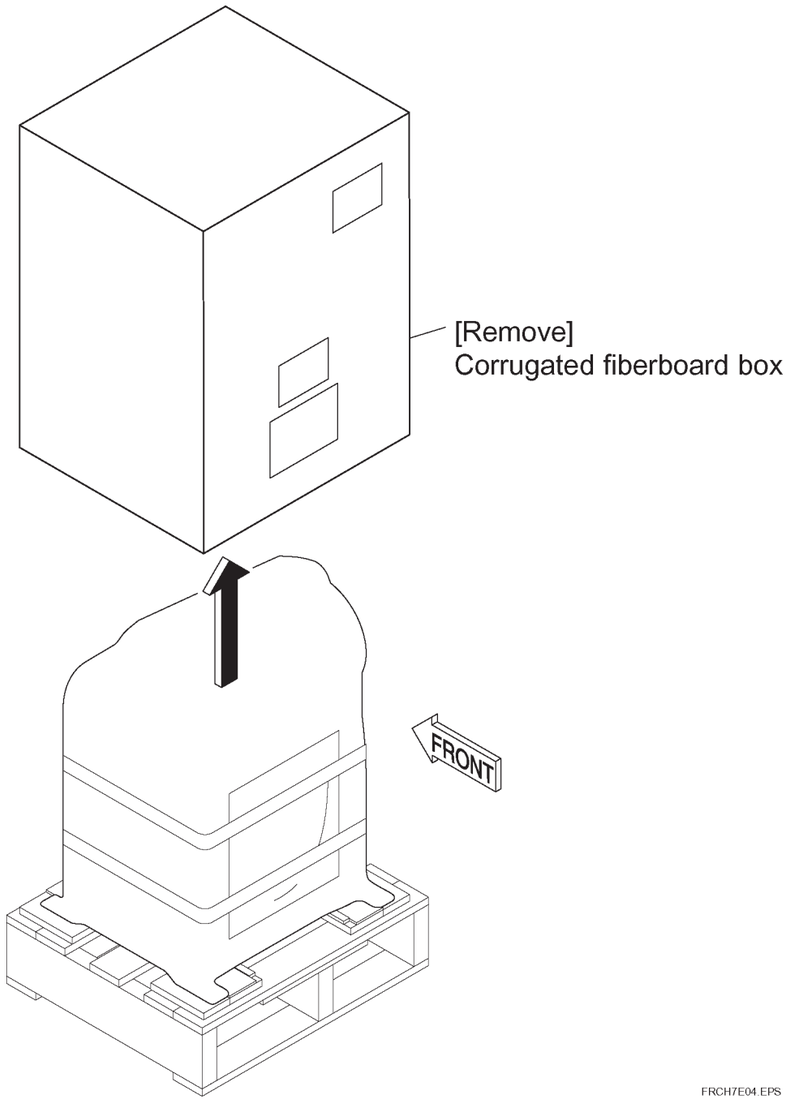
1. **Unload the machine together with the carrier pallet from the load-carrying platform of the truck.**
2. **Cut the polypropylene (PP) band, and remove the slope.**



3. **Remove the corrugated fiberboard box.**

◆ ***NOTE*** ◆

Lift the corrugated fiberboard box straight up not to damage the machine with the edges of the box, for removal.



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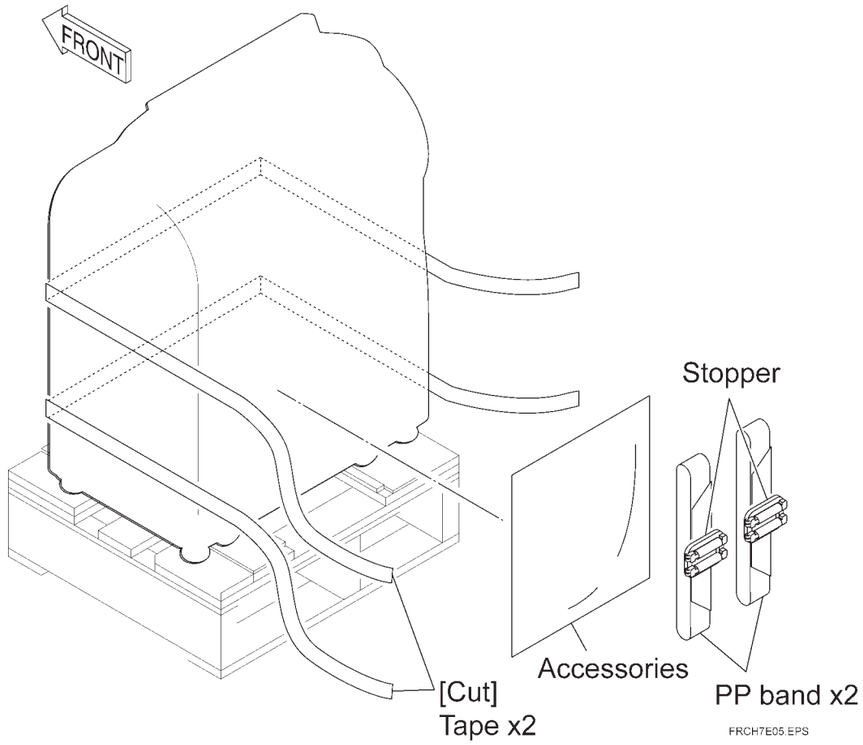
4. **Cut the tapes, and remove the PP bands with stoppers and the bag containing the accessories.**



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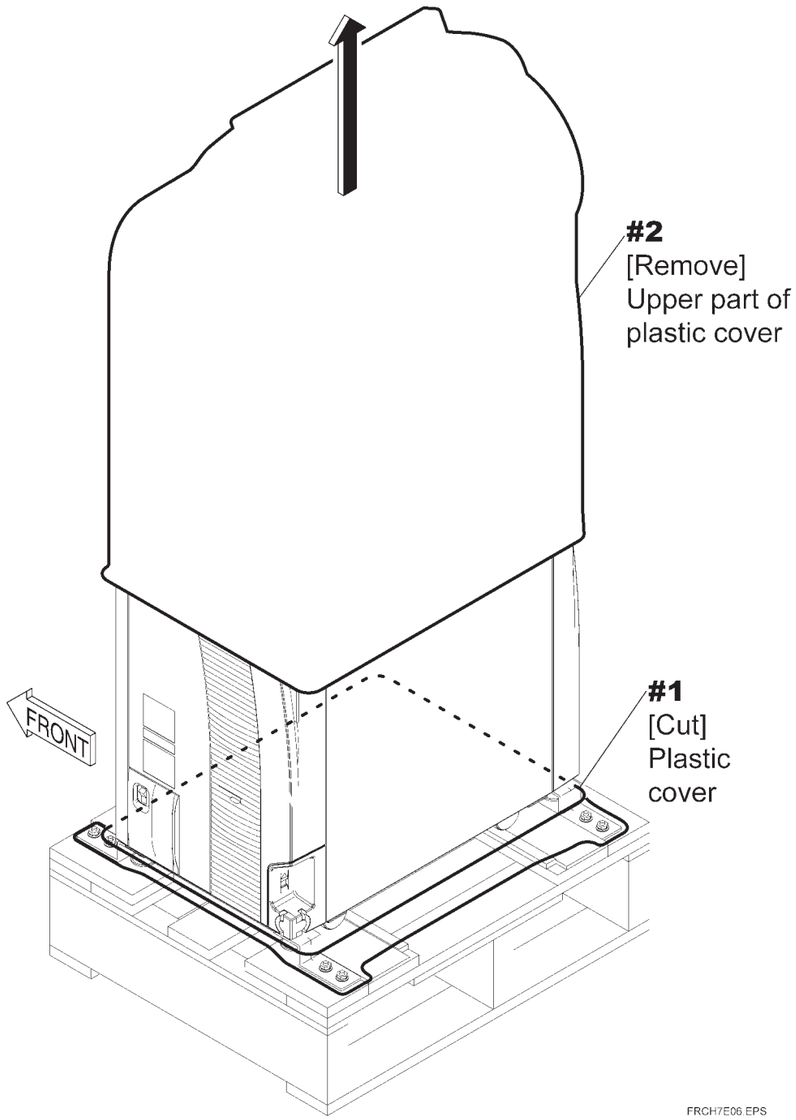
5. **Cut the lower part of the plastic cover which protects the machine. Remove the upper part of the plastic cover.**

◆ ***NOTE*** ◆

When cutting the plastic cover, cut below the bottom of the machine. Do not damage the machine with a sharp instrument.

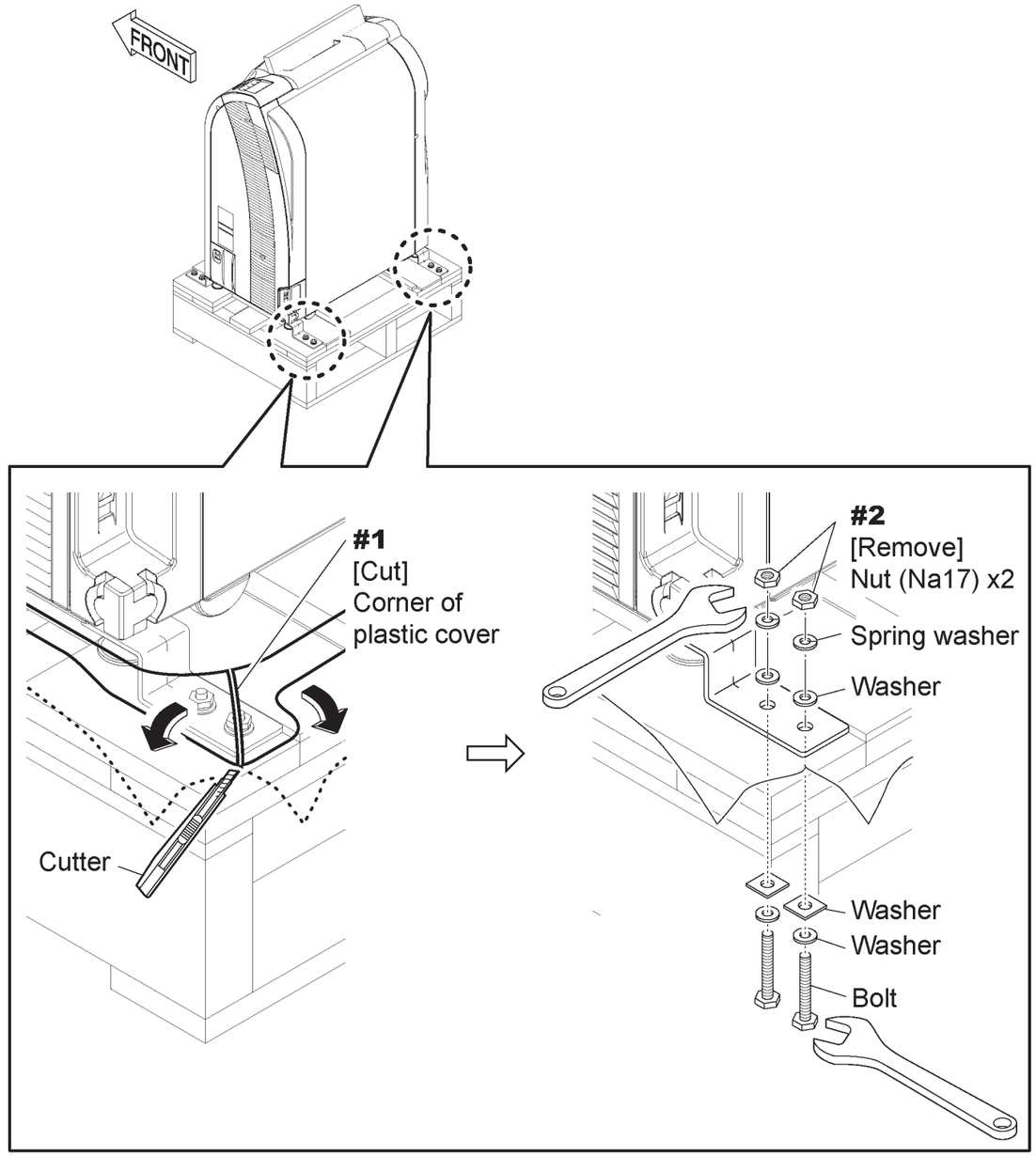


FRCH7E06.EPS

6. **Cut the corners of the plastic cover which cover two right and left machine retainers on the rear of the machine. Then remove the bolts which retain the machine retainers on the rear of the machine.**

◇ *REFERENCE* ◇

In removing the bolts, use of a 17-mm spanner is recommended to improve workability.



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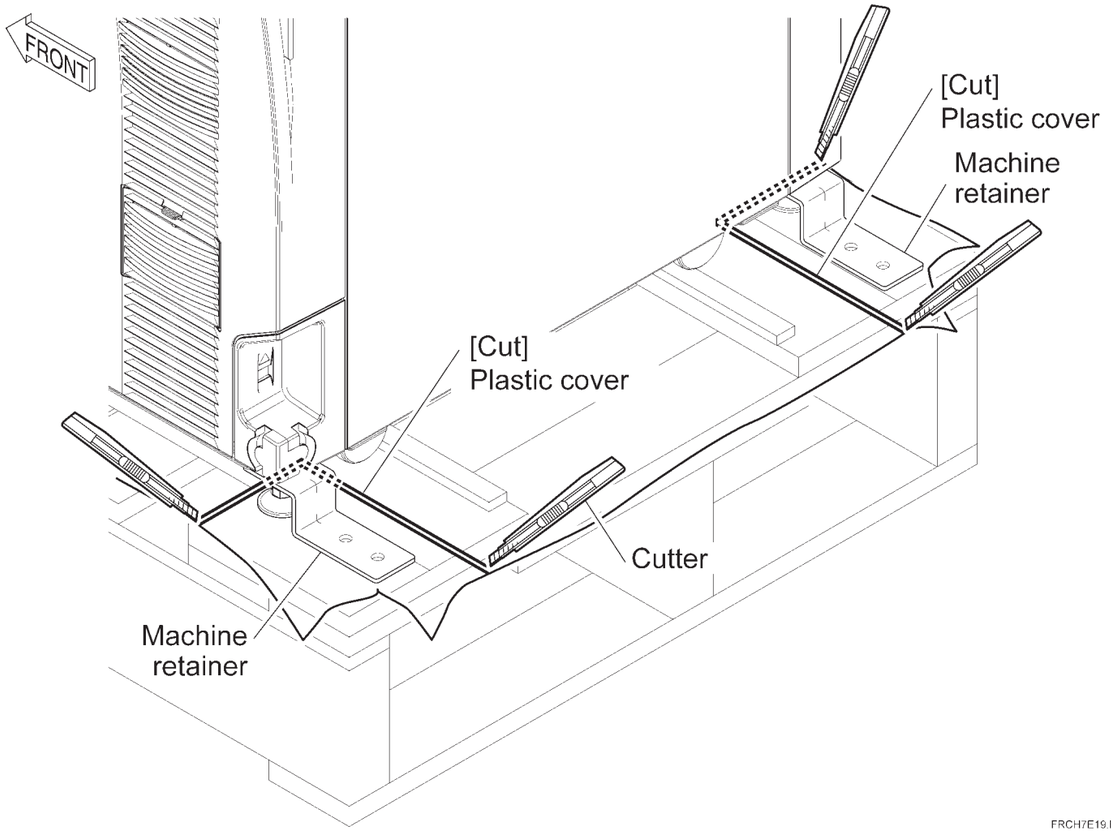
7. **Cut the plastic cover around the machine retainer in an L-shape by a cutter, for easy removal of the two right and left machine retainers on the rear of the machine.**

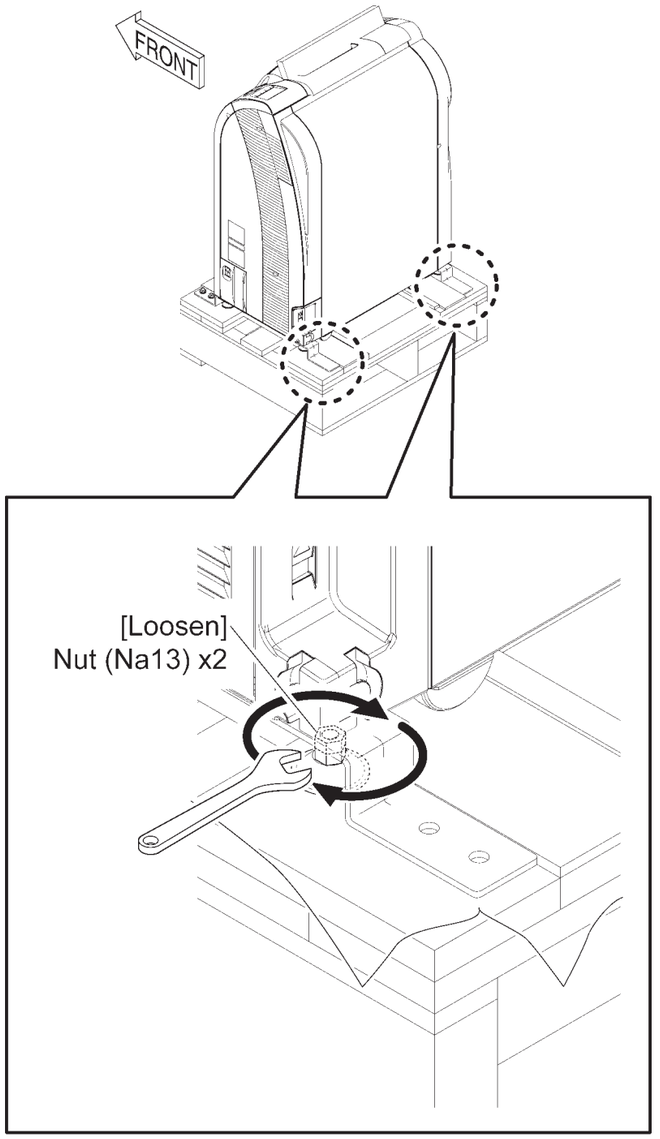


FRCH7E19.EPS

8. **Once loosen the adjustable feet for removing the two right and left machine retainers on the rear of the machine.**

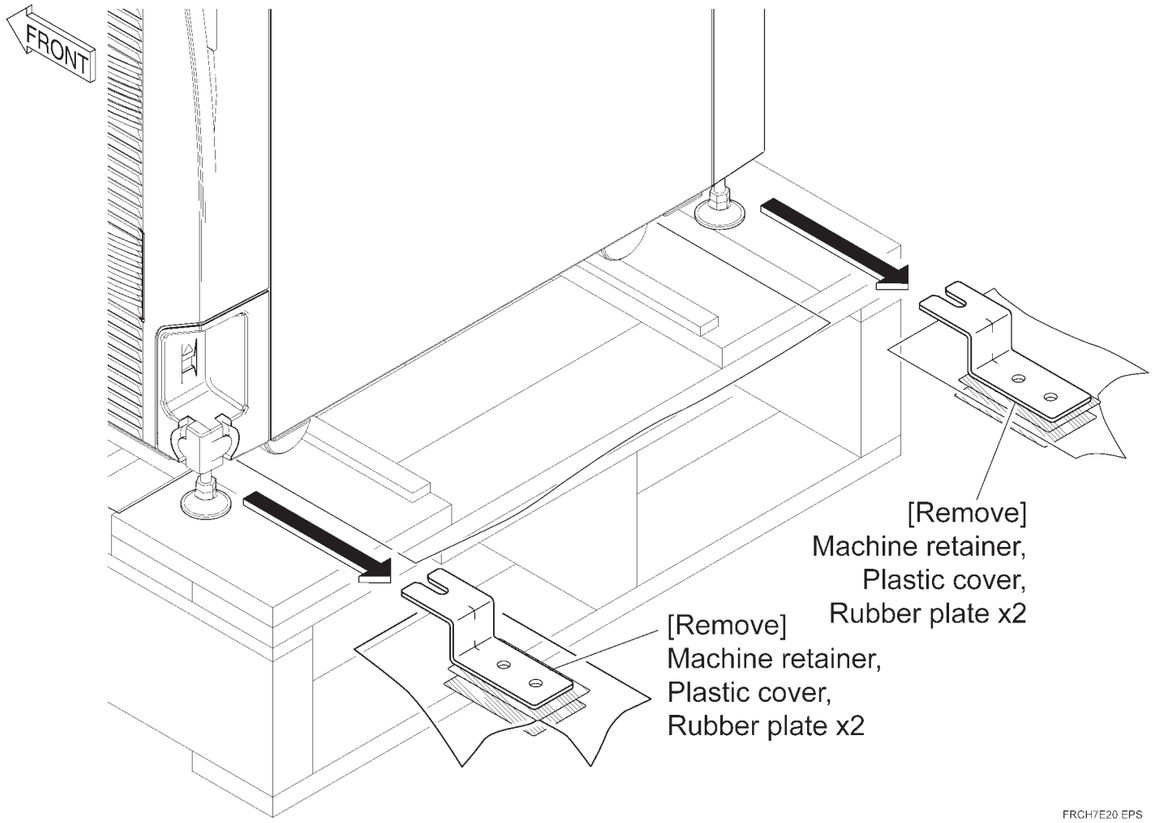
◇ *REFERENCE* ◇

In loosening the nut of the adjustable foot, use of a 13-mm spanner is recommended to improve workability.



FRCH7E08.EPS

9. **Remove the two machine retainers on the right- and left-hand on the rear of the machine together with their sealing plastic covers and rubber plates.**

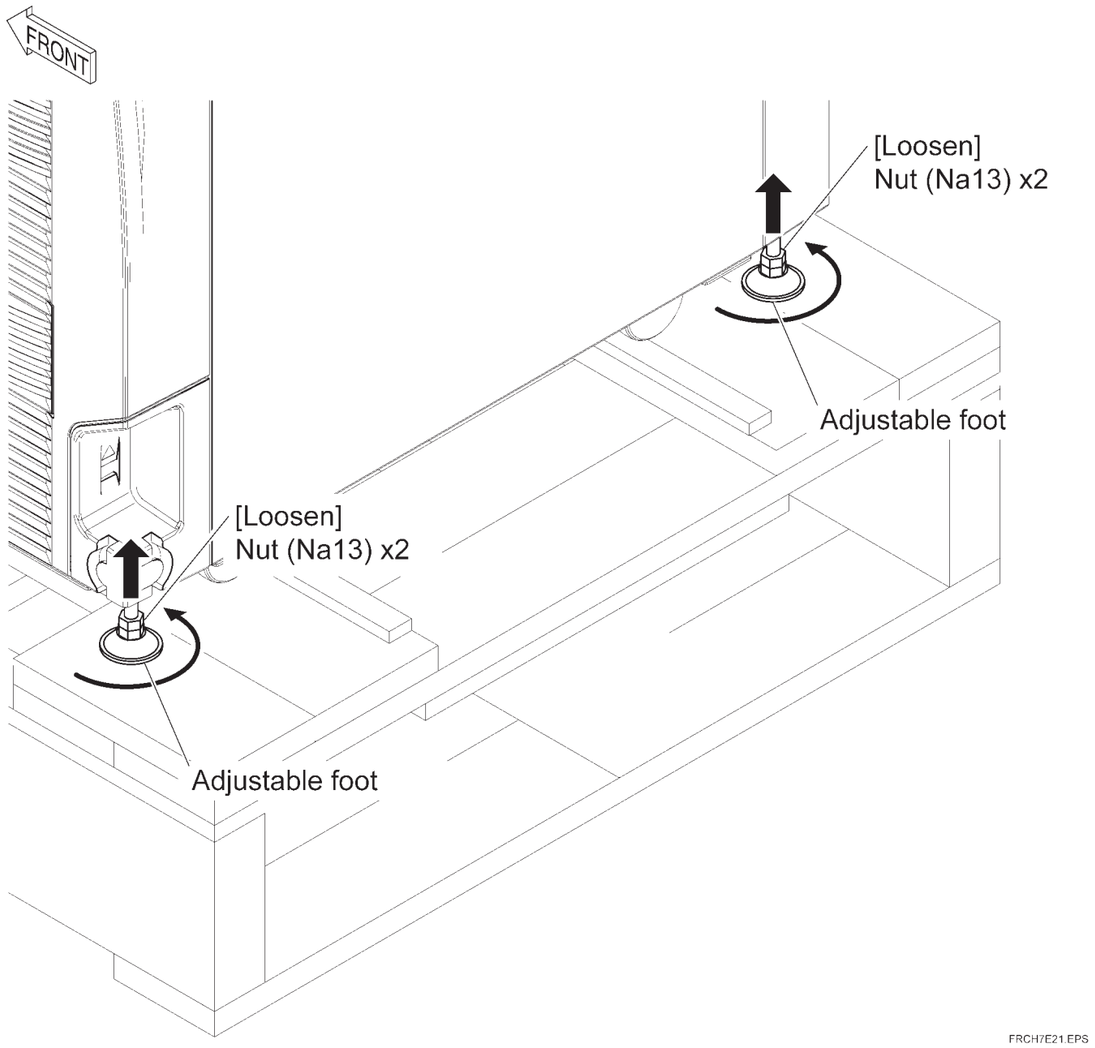


FRCH7E20.EPS

10. **Raise the two adjustable feet on the right- and left-hand on the rear of the machine to the uppermost position.**

⚠ CAUTION

Be sure to raise the adjustable feet to the uppermost position. If the machine is moved with the adjustable feet lowered, they might get caught on the ground, causing the machine to topple down.

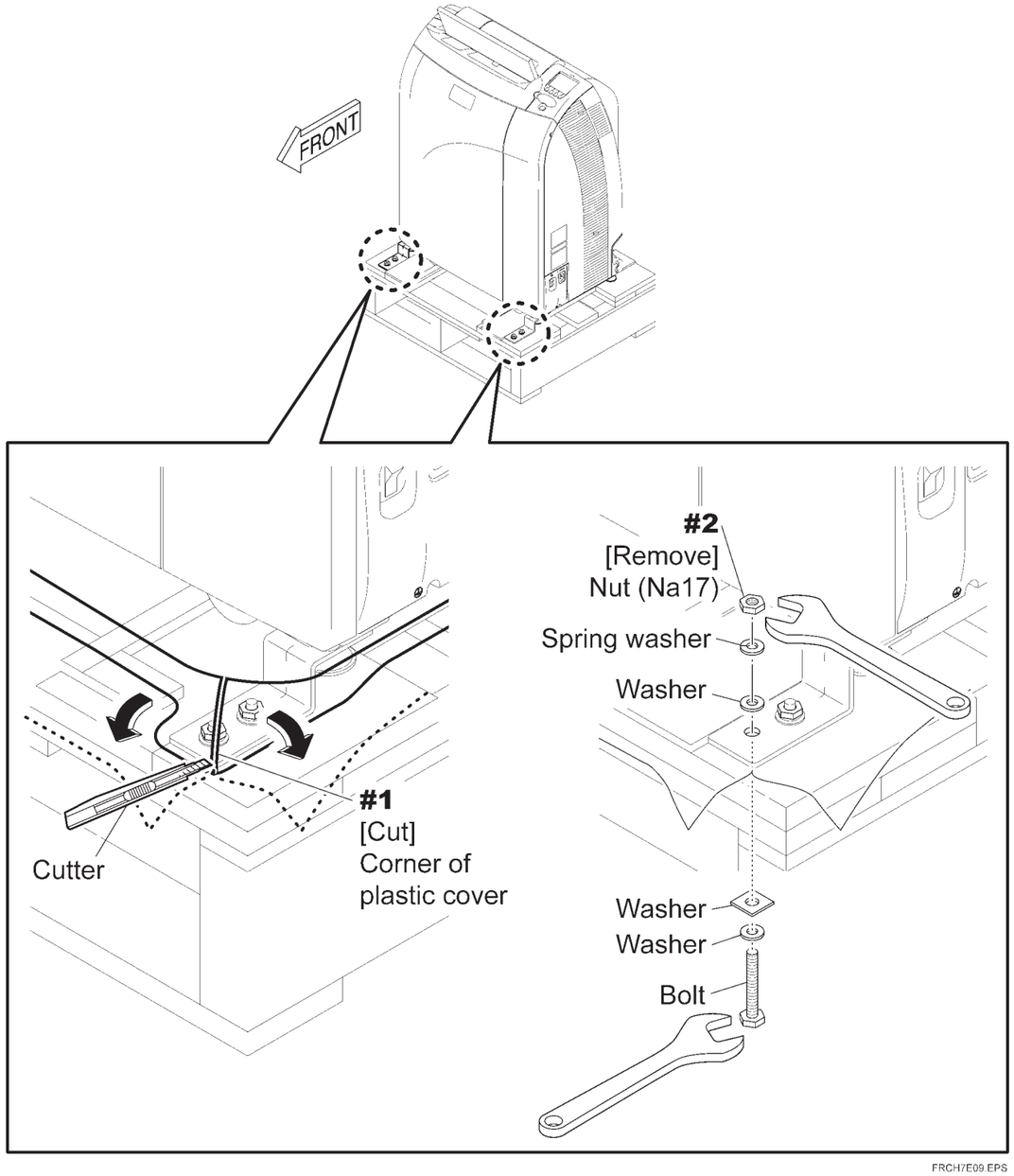


FRCH7E21.EPS

11. **Cut the corners of the plastic covers which cover the two machine retainers on the right- and left-hand on the front of the machine by a cutter, and remove the front bolt of the two bolts retaining the machine retainer on the front of the machine.**

⚠ CAUTION

Do not remove all of the four bolts which retain the machine retainers on the front of the machine. If removed, the machine is movable, and might drop from the carrier pallet.

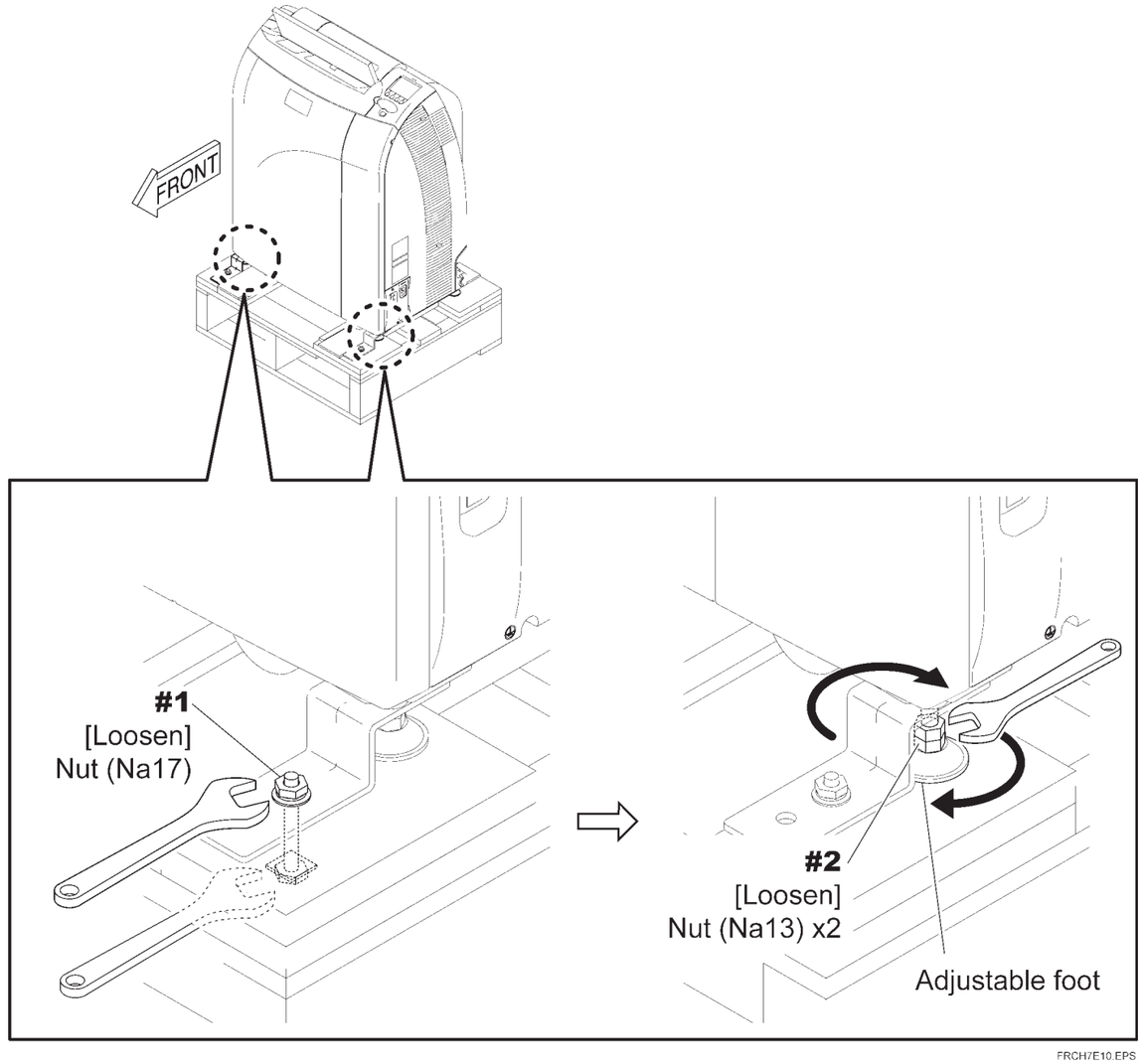


FRCH7E09.EPS

12. **Loosen the bolts which retain the two right and left machine retainers on the front of the machine, and then once loosen the adjustable feet on the front of the machine.**

◇ *REFERENCE* ◇

In loosening the nut of the adjustable foot, use of a 13-mm spanner is recommended to improve workability.

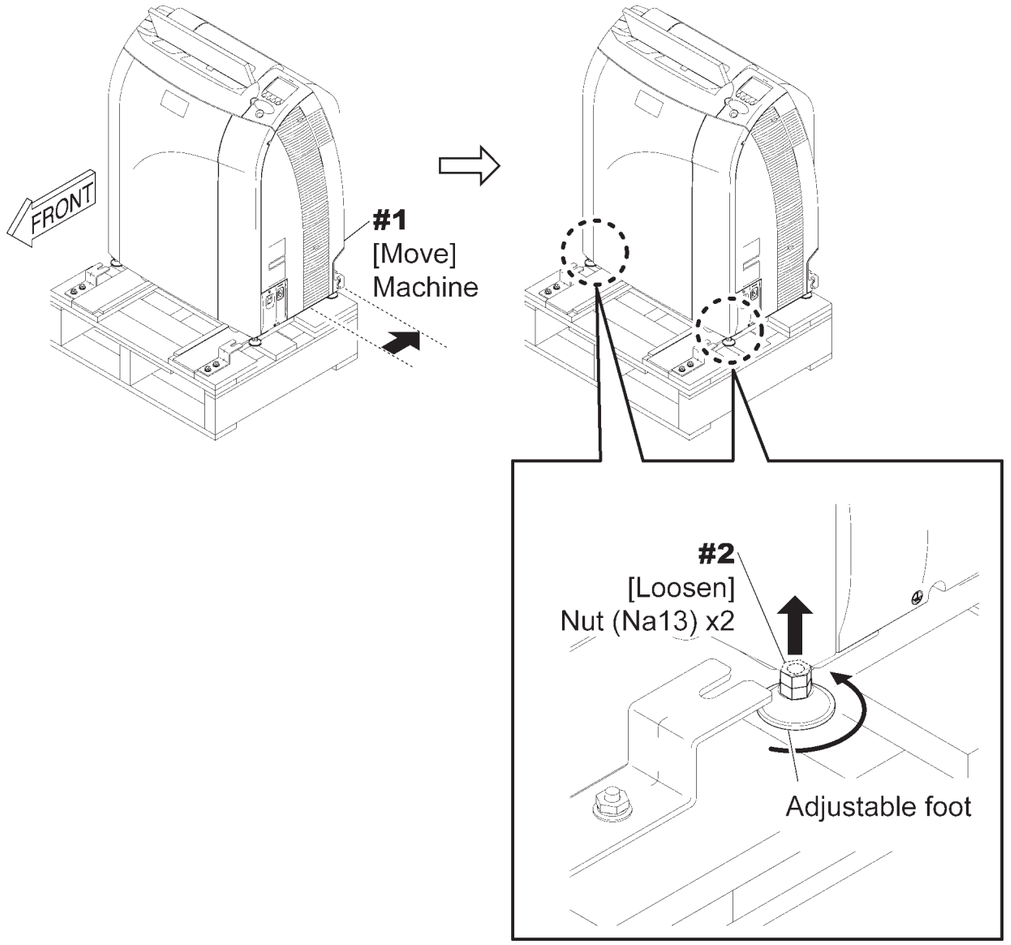


FRCH7E10.EPS

13. **Move the machine on the carrier pallet until the machine disengages from the machine retainers. Then raise the adjustable feet on the front of the machine to the uppermost position.**

⚠ CAUTION

Be sure to raise the adjustable feet to the uppermost position. If the machine is moved with the adjustable feet lowered, they might get caught on the ground, causing the machine to topple down.



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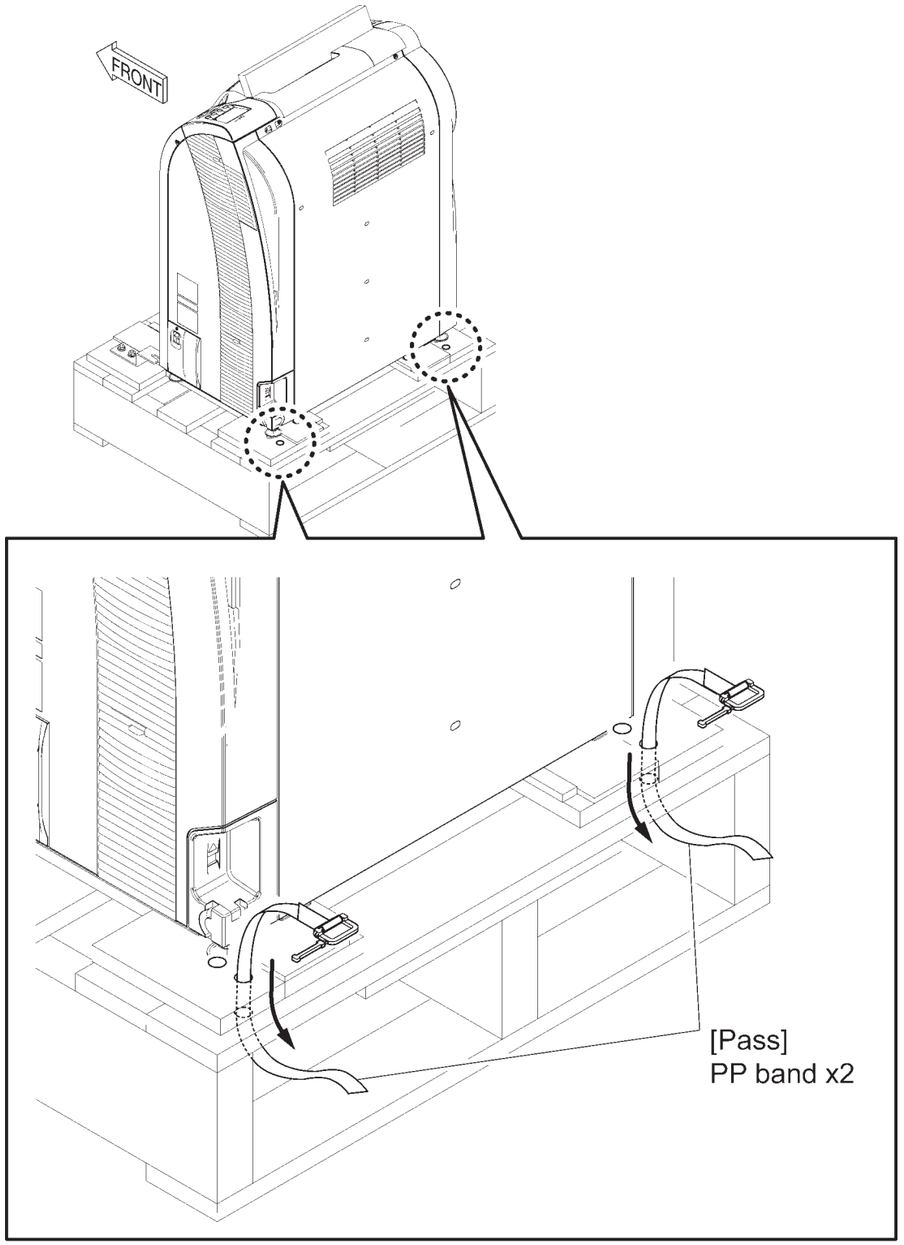
14. **Remove the PP bands for retaining the slope from the accessory bags, and pass the PP bands through the holes on the carrier pallet.**

◆ NOTE ◆

Make sure that the rubber plate has been removed, before passing the PP band. Otherwise, the adjustable foot might get caught on the rubber plate, causing the machine to topple down, when the machine is unloaded from the carrier pallet.



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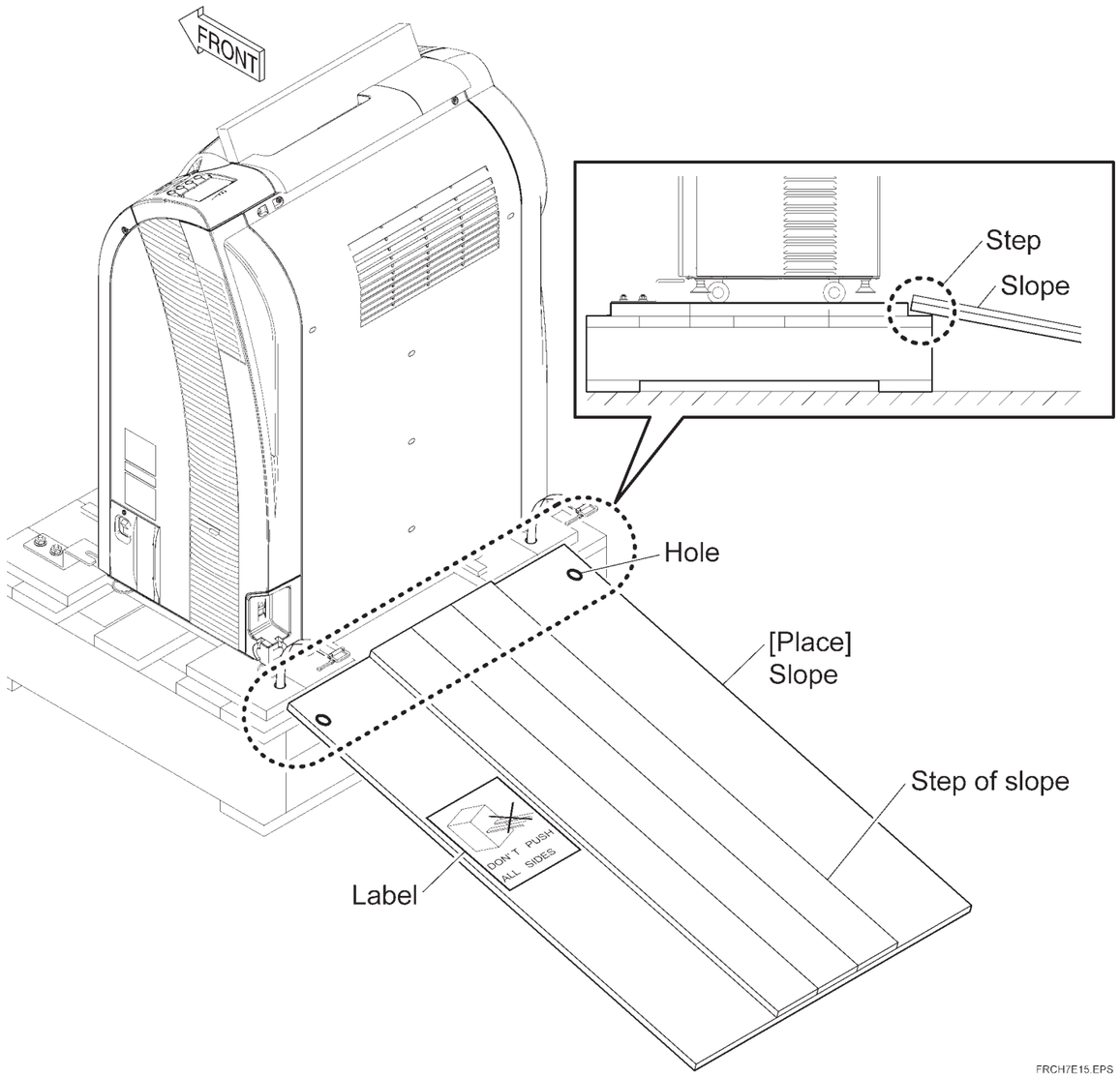
15. **Place the slope over the step of the carrier pallet.**

◆ ***NOTES*** ◆

- *Place the slope with the surface having the label applied facing upward. Since the step of the slope serves as a guide for casters, if a wrong face is placed, a difference in levels will occur between the carrier pallet and the slope, and in addition, the casters might come off from the slope when the machine is unloaded.*
- *Place the slope with the side with holes toward the carrier pallet.*



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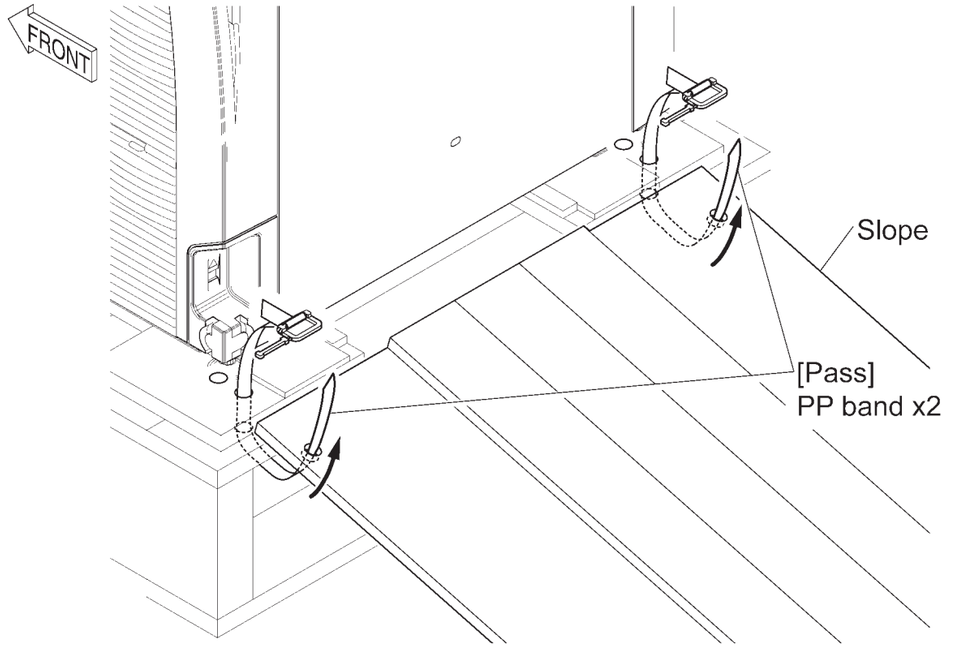
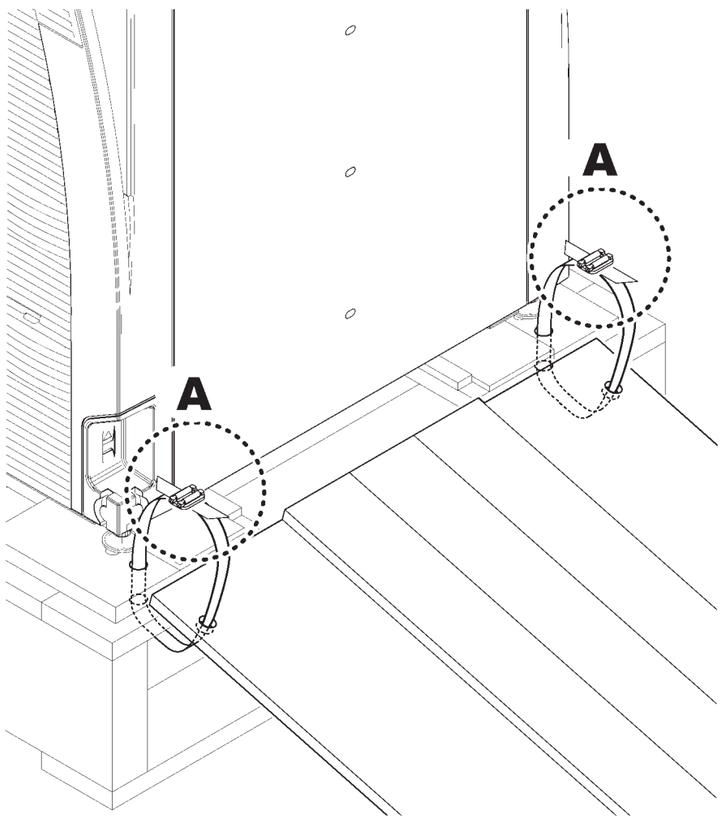
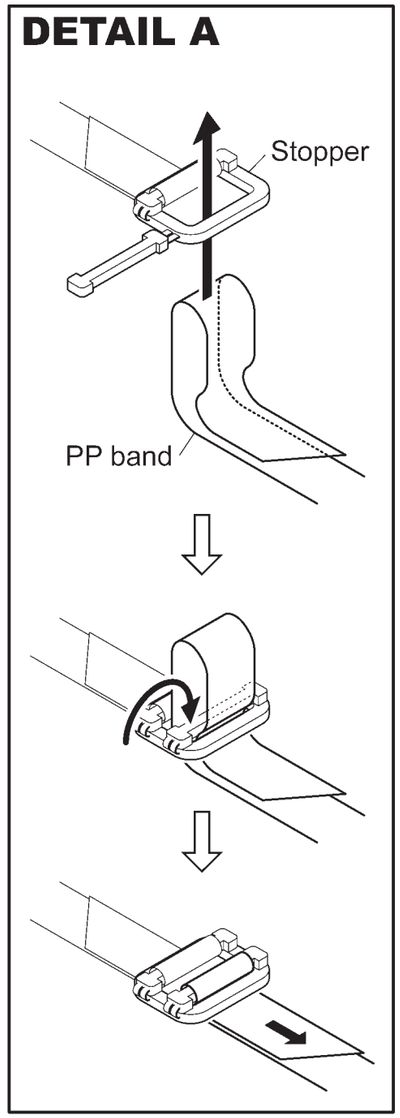
16. **Pass the PP bands through the holes of the slope.**



FRCH7E13.EPS

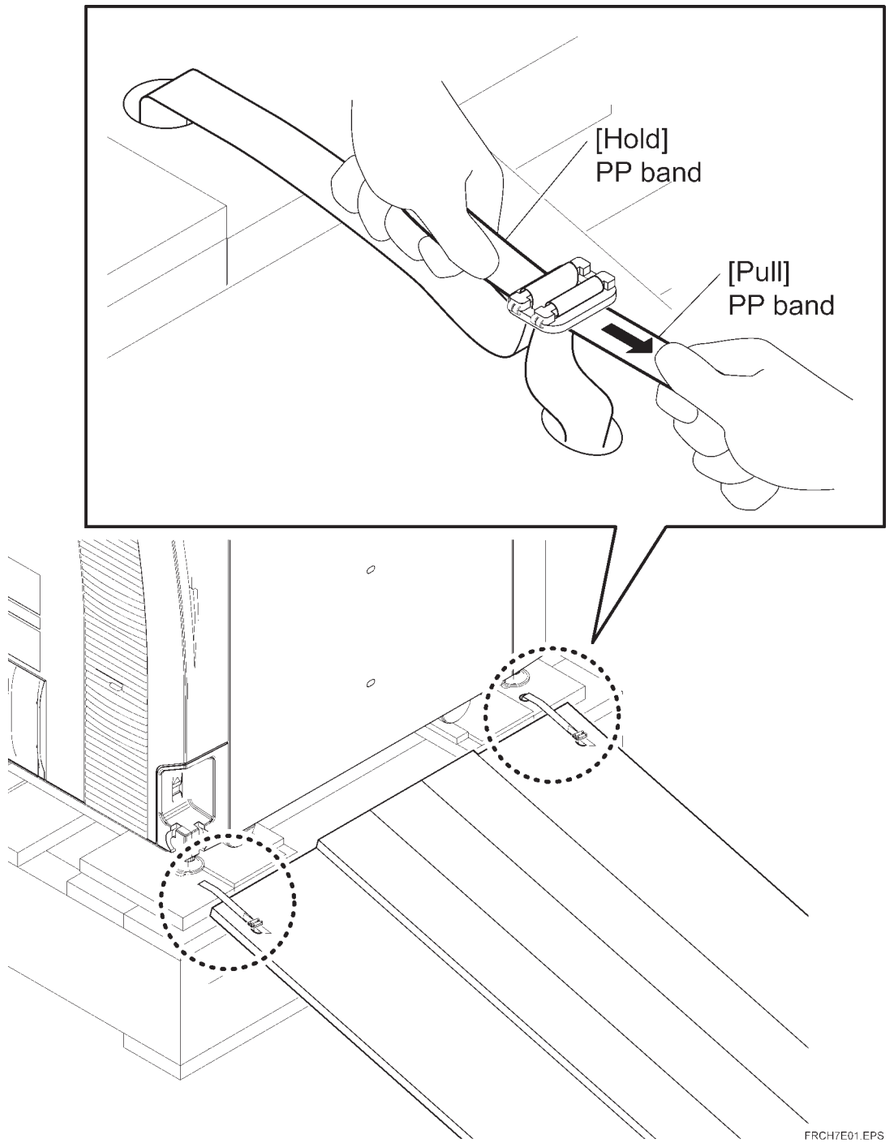
17. **Put the PP band on the stopper.**





FRCH7E16.EPS

18. **Tighten the PP band, and fix the slope to the carrier pallet.**

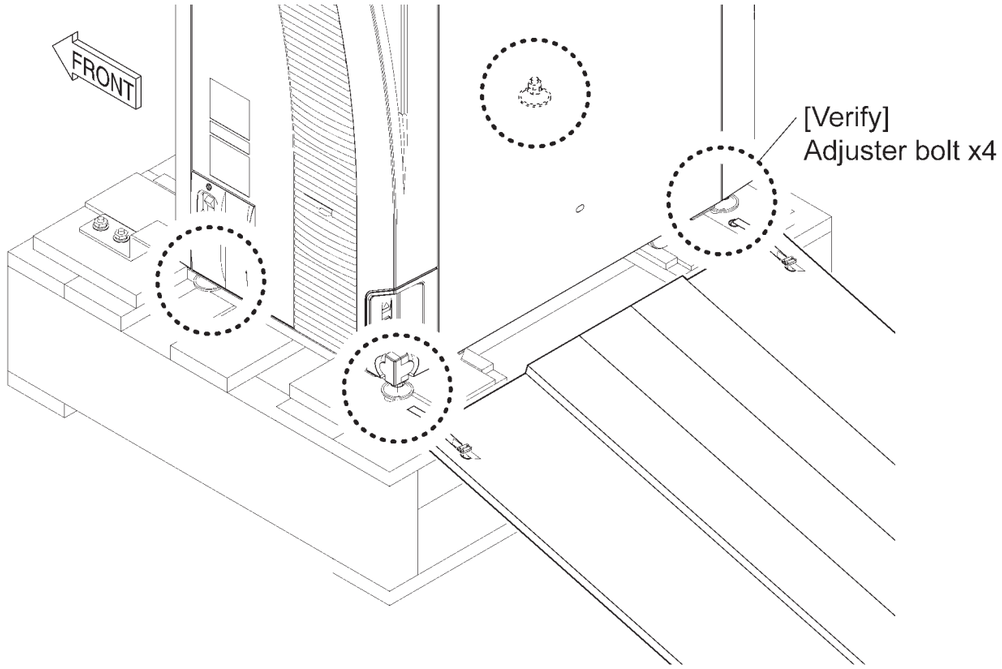


FRCH7E01.EPS

19. **Check to make sure that the four adjustable feet are raised to the uppermost position, before unloading the machine from the carrier pallet.**

⚠ CAUTION

If the machine is moved with the adjustable feet lowered, the feet might get caught with the carrier pallet, the slope and the ground, causing the damage on the adjustable feet.

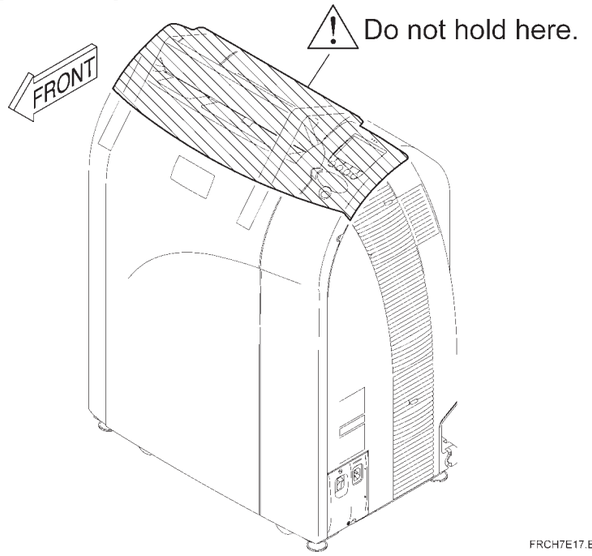


FRCH7E18.EPS

20. **Unload the machine from the carrier pallet.**

⚠ CAUTIONS

- ***Be sure to unload the machine with two persons, and support the machine from both side faces of the machine.***
- ***Hold the rear and the side faces of the machine when supporting the machine.***
- ***Do not hold in the vicinity of the cassette inserting entrance or the vicinity of the operation panel.***



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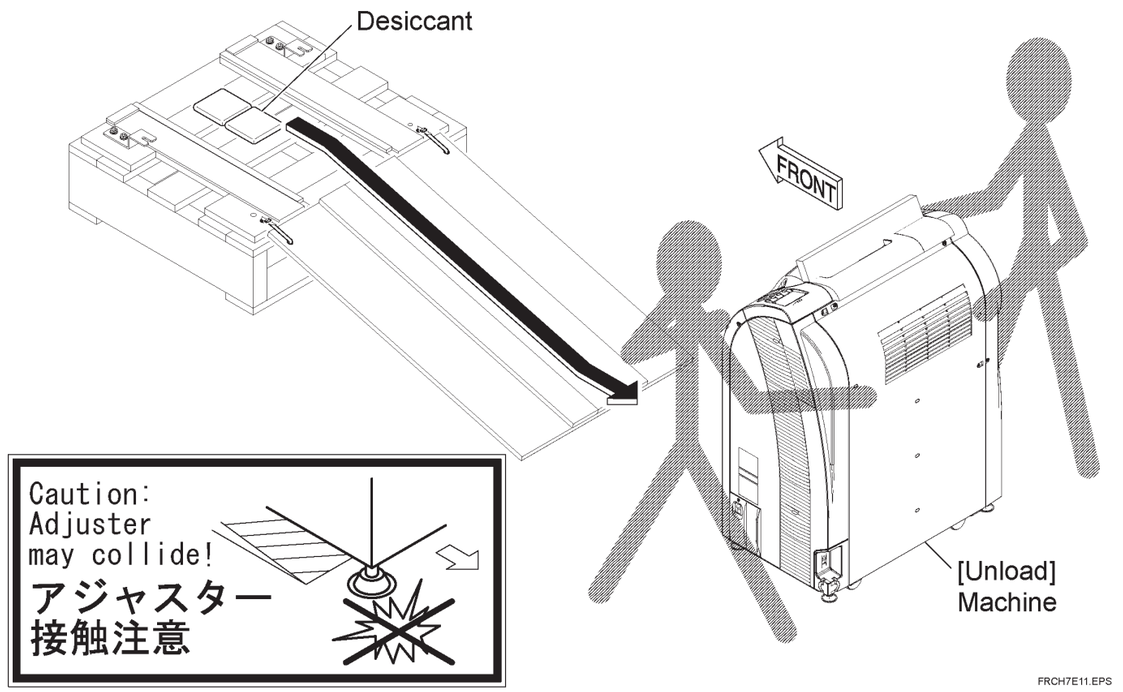

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3.3 Transfer

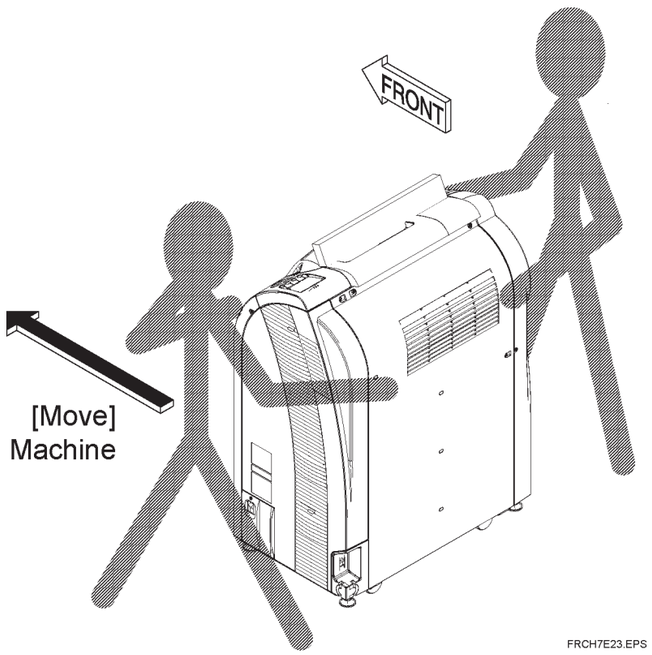
⚠ CAUTIONS

- *When transferring the machine, two persons should support the machine from both side faces to prevent the machine from toppling down.*
- *Raise the adjustable feet to the uppermost position before transfer. Otherwise, the machine might topple or the casters might get damaged.*
- *When the machine should be moved over some step or bump, move it as slowly as possible to avoid shock to it. Note that the step over which the machine may move is about 10 mm high at most.*

1. **Put the hand lifter underneath the machine.**

◆ *NOTE* ◆

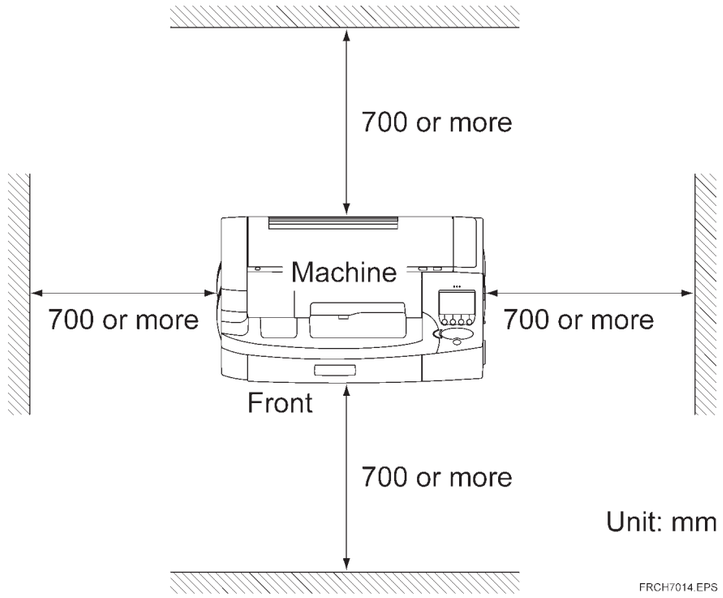
Do not use the hand lifter to transfer the machine into the installation place. The machine might topple and get damaged.



FRCH7E23.EPS

3.4 Temporary Placement

1. **Secure space required for installation procedures and temporarily place the machine.**



FRCH7014.EPS

2. **Secure the machine with the adjustable feet in place.**

3.5 Checking the Items Supplied

Check whether all the items are supplied in accordance with the PACKING LIST that is contained in each carton.

■ Machine Main Body

Abbreviated product name	Description	Qty.	Remarks
CR IR 357 RU USA 1 E	Image reader main body CR-IR 357 (for the U.S.)	1	- For FMSU direct selling - For use at hospitals - For inch type cassettes
CR IR 357 RU E	Image reader main body CR-IR 357 (For European and other foreign countries)	1	- For use at hospitals - For metric type cassettes

■ Power Cable

Check Item	Qty.	Remarks
Power cable	1	136N0418 (CCC: For China)
		136N0377 (CEE: For Europe (except the U.K.))
		136N0376 (BSI: For the U.K.)
		- 136N0427 (US1: For the U.S.) - Packed together with the accessories.

■ Accessories

Check Item	Qty.	Remarks
CD-R (machine-specific data)	1	Machine-specific data CD-R
CD-ROM (application)	1	For installation
Fuse set	1	1.0A (137S1178)
	1	1.6A (137S1276)
	1	2.0A (137S1277)
	1	3.2A (137S1278)
	1	5.0A (137S1280)
Label	2	Cassette insertion operation label
	1	Exposure markers precaution label
Spur gear	1	327N1122501
	1	327N1121608
Screw	5	TP3x6
	5	BR4x8
	5	DT3x6
KL ring	5	KL4
Cover	1	For power supply inlet
Test Result Sheet	1	
Instruction Manual	1	
Letter of guarantee	1	

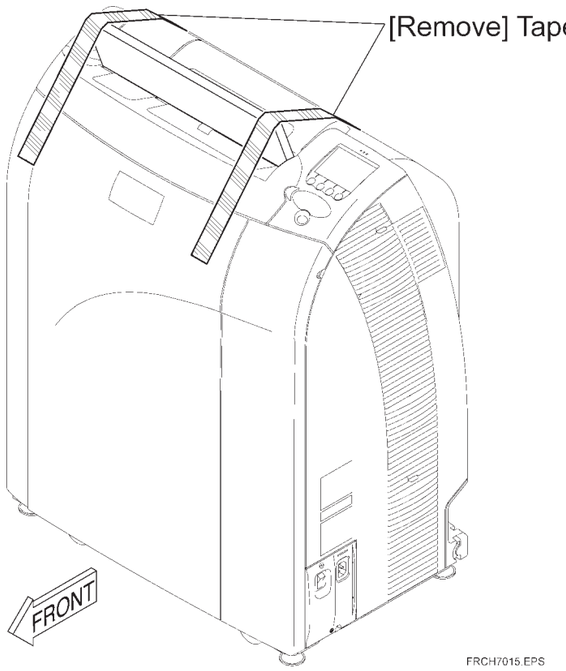
■ Optional Items

Abbreviated product name	Description	Qty	Remarks
IR 355 FLOOR FIX KIT #(E)	Anti-topple retainer kit	1	For retaining the machine
IR 355 STAND #(E)	Supporter	1	
IR 355 CASSETTE RACK #(E)	Cassette rack	1	
-	Supporter cassette rack	1	
-	Supporter cassette rack (for long cassette)	1	

4. Installation Procedures

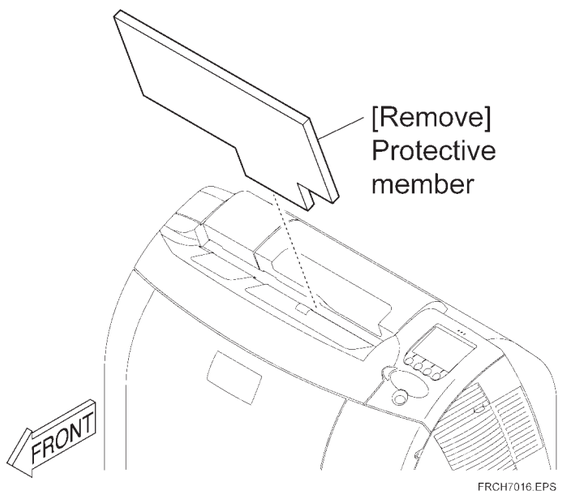
4.1 Removing the Transportation Protective Member

1. **Remove the tapes.**



FRCH7015.EPS

2. **Remove the protective member.**



FRCH7016.EPS

5. Connecting the Cables

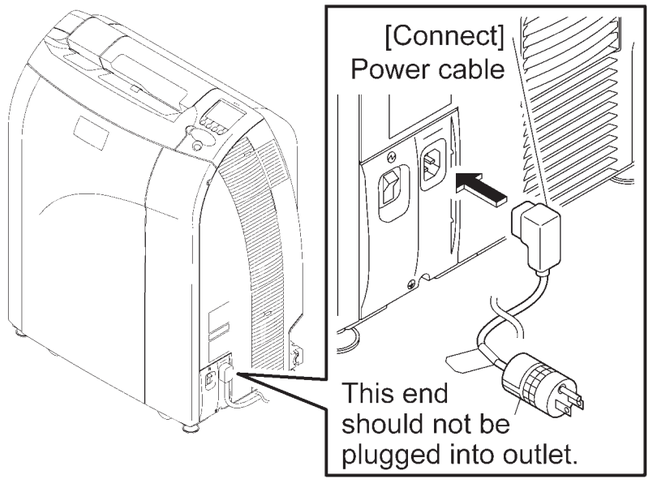
5.1 Connecting the Power Cable and Checking Resistance Value

⚠ WARNINGS

- ***Before measuring the resistance value, make sure that the power plug is unplugged from the outlet.***
- ***If the machine is to be installed in the patient environment, see "APPENDIX 1. ADDITIONAL PROTECTIVE GROUNDING."***

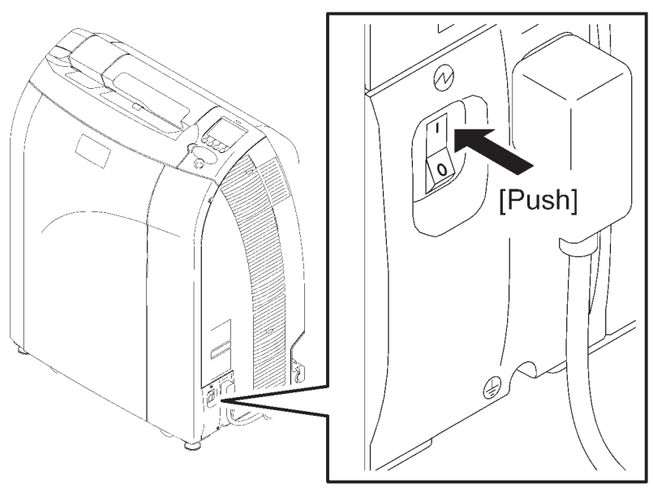
☞ ***{IN: Appendix 1_ADDITIONAL PROTECTIVE GROUNDING}***

1. **Connect the power cable to the machine.**



FRCH7E27.EPS

2. **Place the breaker switch in the ON position.**



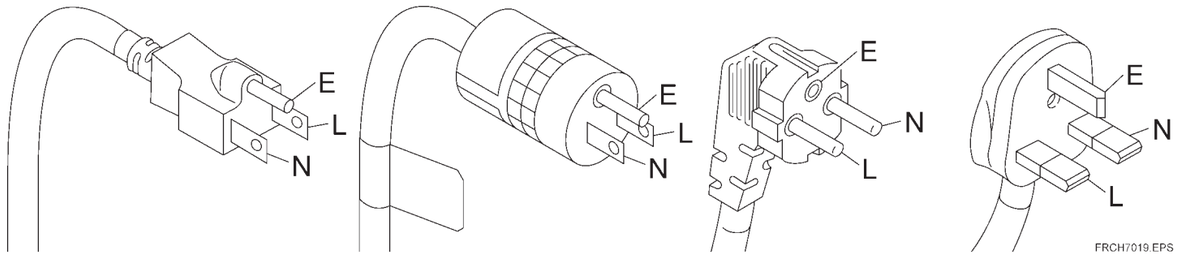
FRCH7018.EPS

3. **Measure the resistance value of the power cable.**

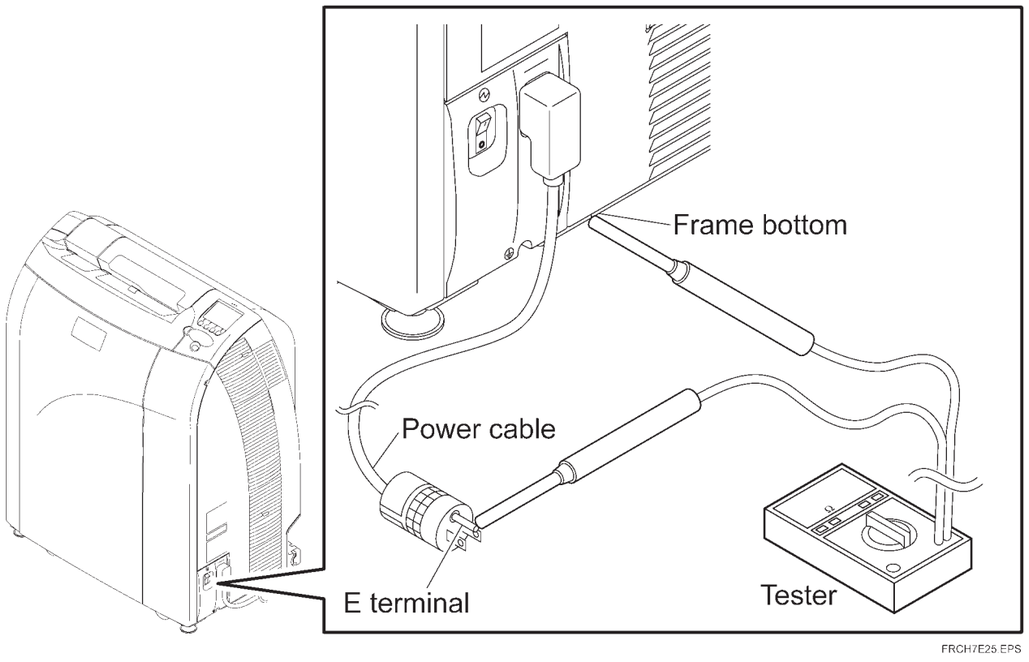
(Reference value)

Terminal	L - N	L - E	N - E
Resistance value	100kΩ -	∞	∞

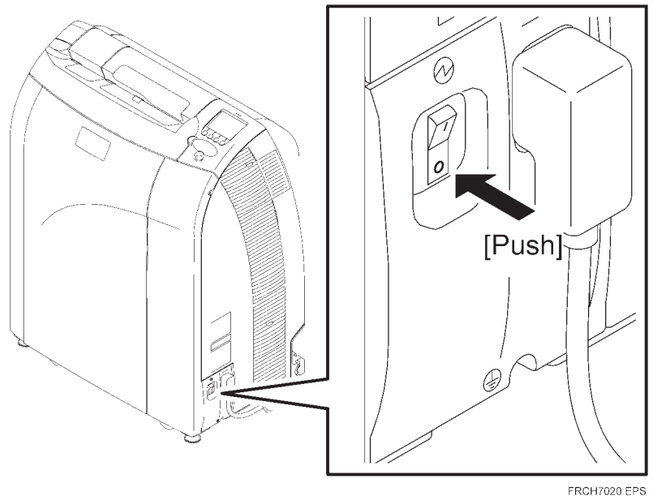
<For use in Japan> <For use in USA> <For use in Europe> <For use in UK, etc.>



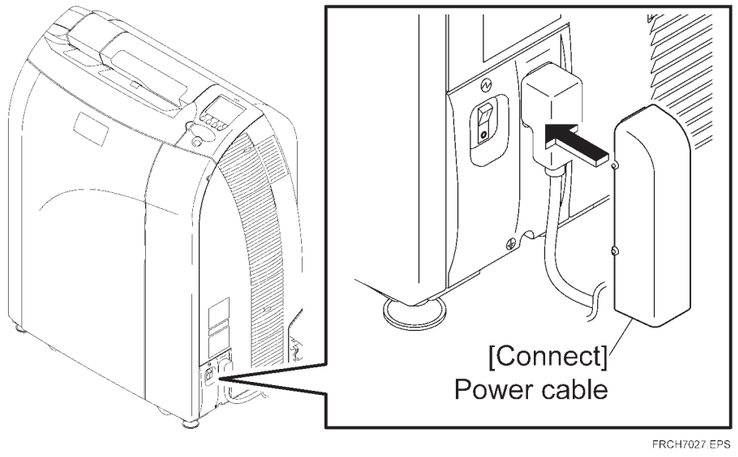
4. **Measure the resistance value between the E terminal of the power cable and the bottom of the machine frame, and make sure that there is continuity.**



5. **Place the breaker switch in the OFF position.**



6. **Install the power cable cover.**



5.2 Connecting the Interface Cable

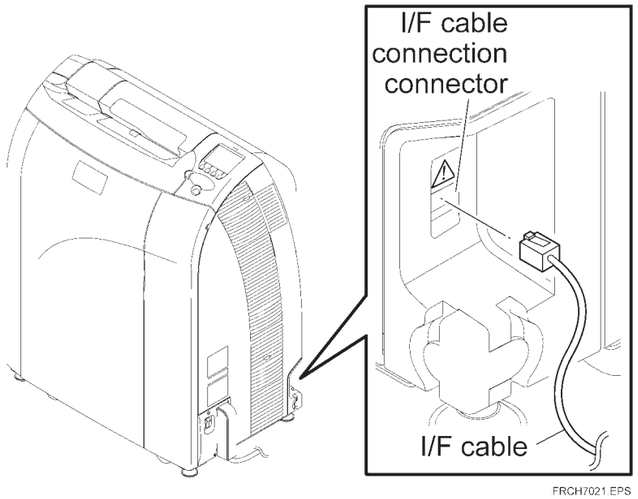
⚠ CAUTION

A telephone cable should not be plugged into the I/F cable connector. The type of cable compatible with this machine is an IEC950/UL1950-listed cable only.

◆ NOTE ◆

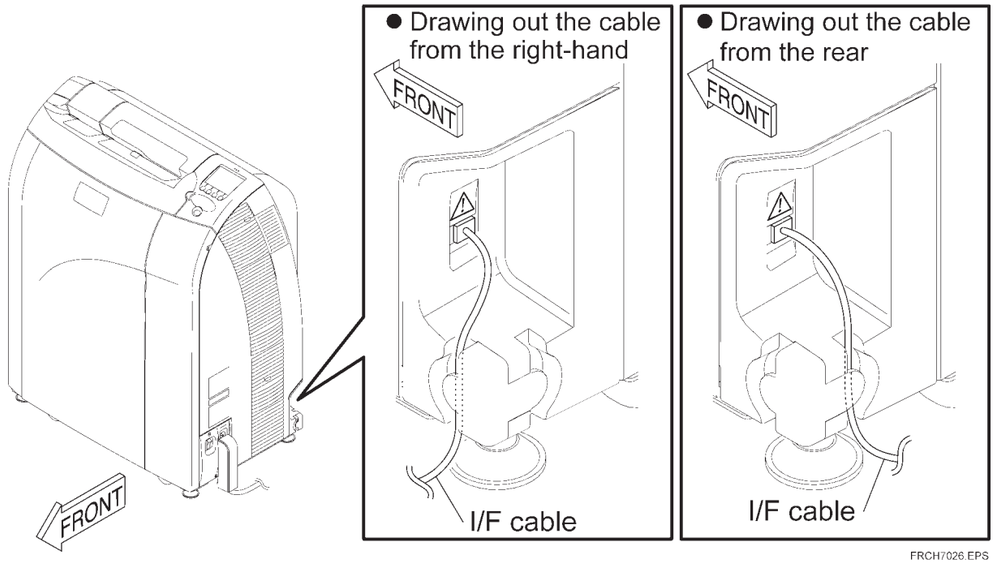
For the I/F cable, only the straight cable of UTP type should be used.

1. **Connect the I/F cable to the I/F cable connector of the machine.**



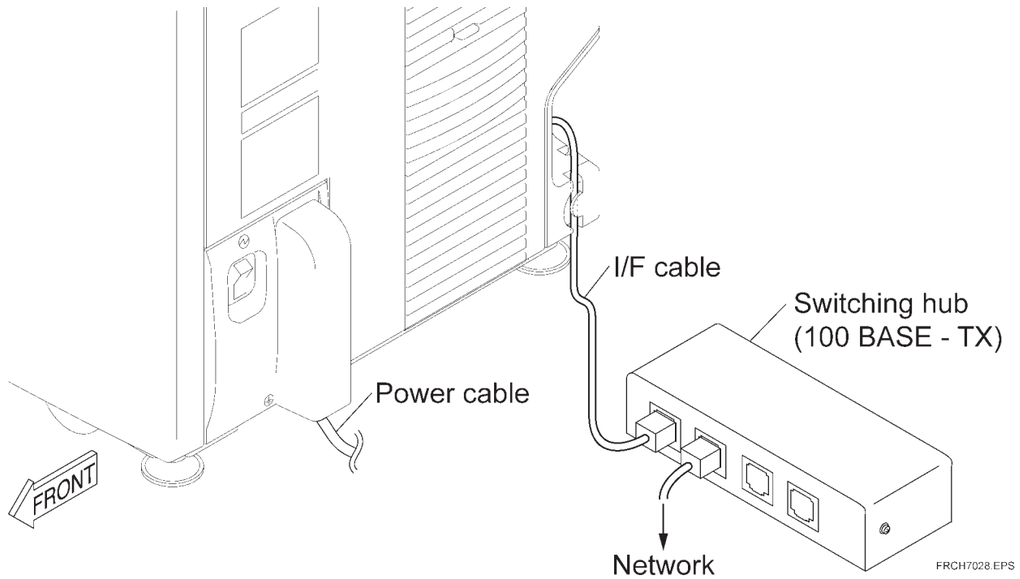
FRCH7021.EPS

2. **Consult the user to check the installation conditions of the machine, cable wiring locations and so on. When the I/F cable is to be drawn out from the right-hand side of the machine, pass the cable through the right-hand slot, and when it is to be drawn out from the rear of the machine, pass it through the rear slot.**



FRCH7026.EPS

3. **Connect the I/F cable to the switching hub.**



FRCH7028.EPS

6. Final Placement

For final placement of the machine, check the requests of the user, and observe the procedures described below to secure the machine and cables in place.

⚠ *WARNING*

At an institution where a long cassette is used, be sure to fasten the machine to the floor with the anti-topple retainer.

☞ ***{IN: Appendix 2_Securing the Machine with the Anti-Topple Retainer}***

- **Retaining the machine with the adjustable feet;**
  When the machine is to be retained with the adjustable feet, refer to “6.1 Securing the machine”.
  ☞ **{IN:6.1_Securing the Machine}**

- **Retaining the machine by the anti-topple retainer;**
  When the machine is to be fixed by the anti-topple retainer (optional), refer to “Appendix 2. Securing the Machine with the Anti-Topple Retainer”.
  ☞ **{IN: Appendix 2_Securing the Machine with the Anti-Topple Retainer}**

- **Using the supporter**
  When using the supporter (optional), see "Appendix 3. Assembling and Securing the Supporter."
  ☞ **{IN: Appendix 3_Assembling and Securing the Supporter}**

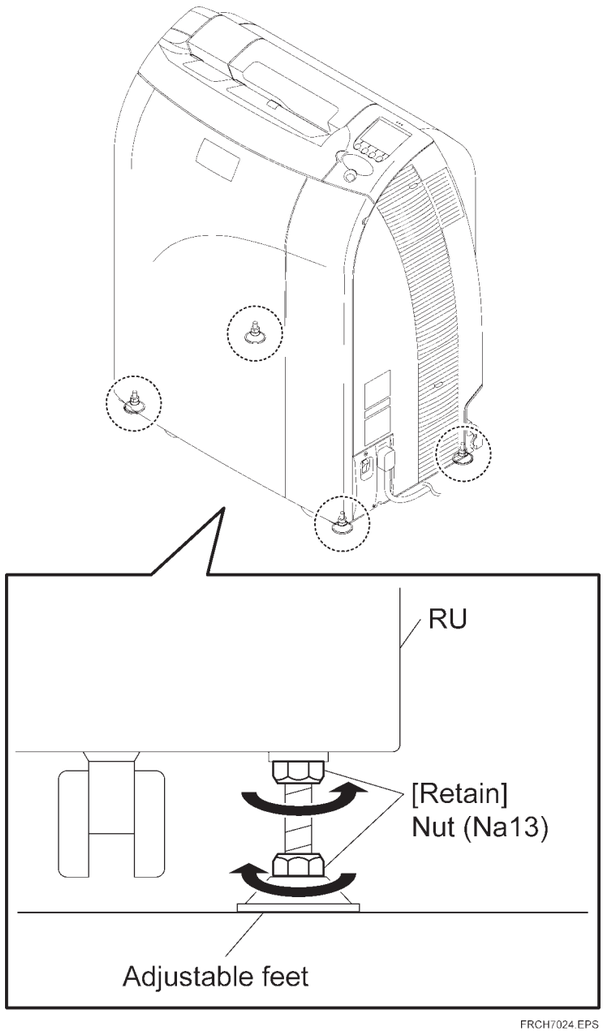
6.1 Securing the Machine

1. **Secure the four adjustable feet down onto the floor.**

◆ ***NOTE*** ◆

When securing the adjustable feet, pay attention to the following points.
- *The four adjustable feet should be evenly loaded.*
  However, if there is too little space on the right and left sides in the machine installation place to secure the adjustable feet on the rear side, the two adjustable feet on the front side should be secured in place. In this case, the two adjustable feet and two casters should be evenly loaded.
- *When the adjustable feet are secured, the casters should be detached from the floor.*

2. **Secure the adjustable feet.**



6.2 Securing the Cable

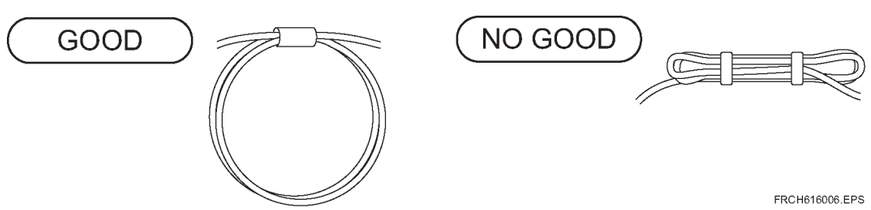
⚠ WARNING

If the machine is to be installed in the patient environment, see "APPENDIX 1. ADDITIONAL PROTECTIVE GROUNDING."

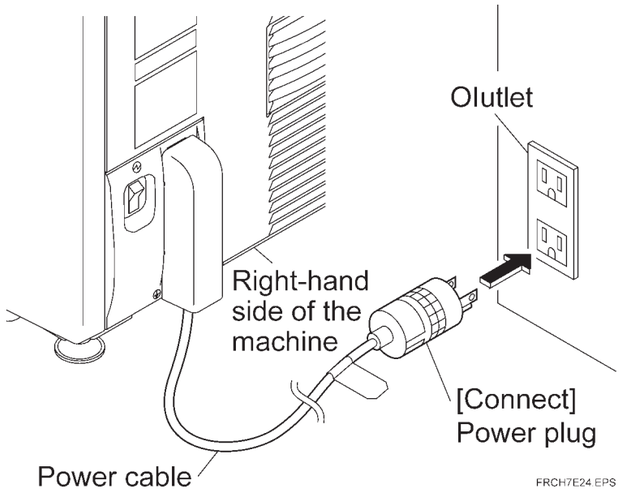
☞ *{IN: Appendix 1_ADDITIONAL PROTECTIVE GROUNDING}*

⚠ CAUTION

Do not tie or bundle the power cable in such a manner that it is overloaded.



1. **Plug the power cable into the outlet.**



7. CR Console Installation Procedures

1. **Perform the CR Console installation procedures.**

◆ ***NOTE*** ◆

Complete "7. CR Console Installation Procedures" before performing the procedures described in "8. Installing RU Software."

☞ **{FCR XG-1/CR CL Service Manual}**

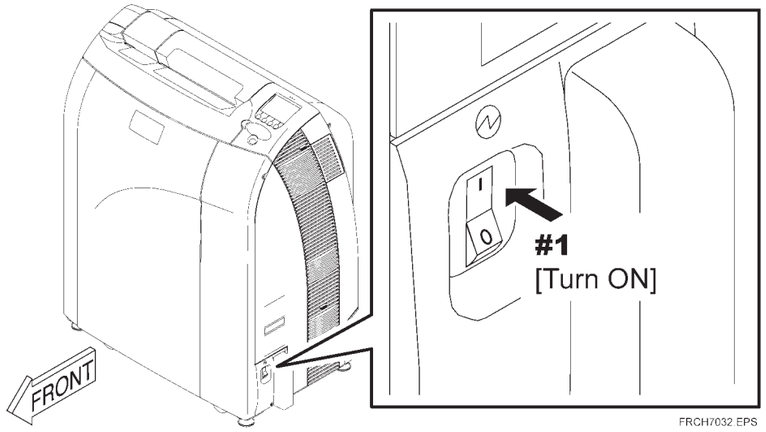
8. Installing RU Software

Start up the Machine Maintenance Utility of the RU and set the "RU IP Address" and "FTP Server IP Address."
The procedure described here assumes that the following addresses are to be set:
RU IP address: 172.16.1.11
FTP server IP address: 172.16.1.21

8.1 Starting the Machine Maintenance Utility

1. **Turn ON the power of the CR Console.**

2. **Turn ON the circuit breaker of the RU.**



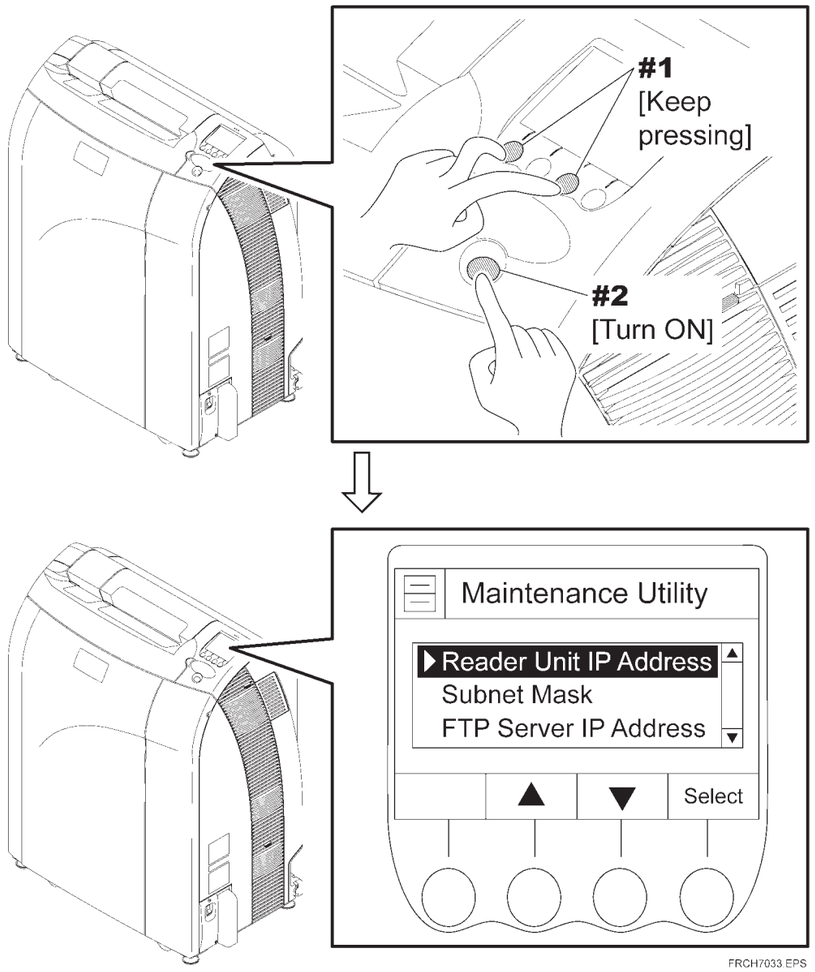
FRCH7032.EPS

3. **Start up the Machine Maintenance Utility of the RU.**

Turn ON the RU power while pressing the first and third buttons from the left on the operation panel. Keep pressing the first and third buttons from the left until the "Maintenance Utility" window appears on the operation panel.

◆ ***NOTE*** ◆

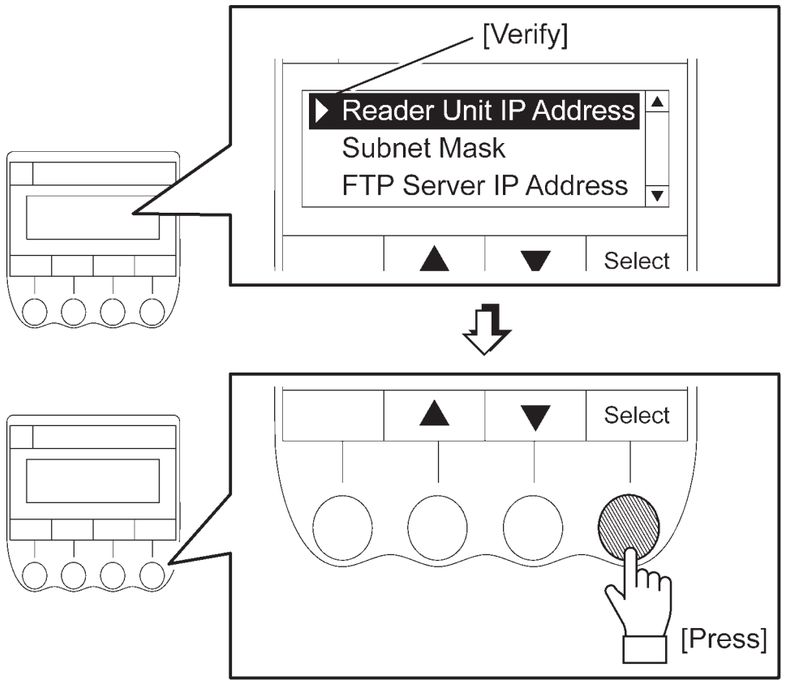
Be sure to keep pressing the first and third buttons from the left until the "Maintenance Utility" window appears on the operation panel. If the "Maintenance Utility" window does not appear and the RU starts to boot up, once turn OFF the RU power and repeat from the procedure 1.



FRCH7033.EPS

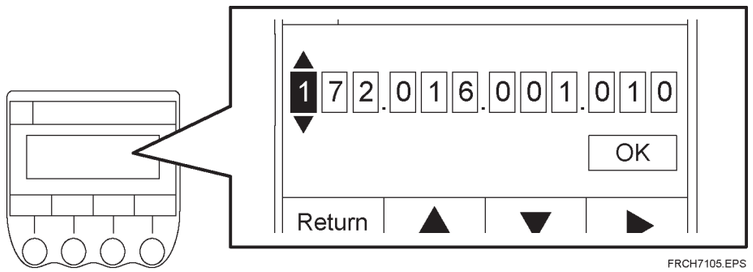
8.2 Setting the RU IP Address

1. **Make sure that "Reader Unit IP Address" is selected, and then press the [Select] button.**



FRCH7034.EPS

→ The address setting window appears.

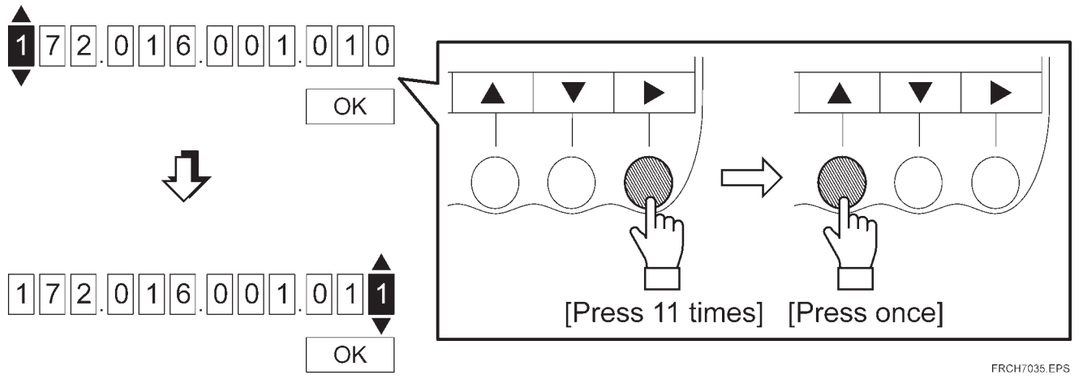


FRCH7105.EPS

2. **Press the ▶ button 11 times, and press the ▲ button once.**

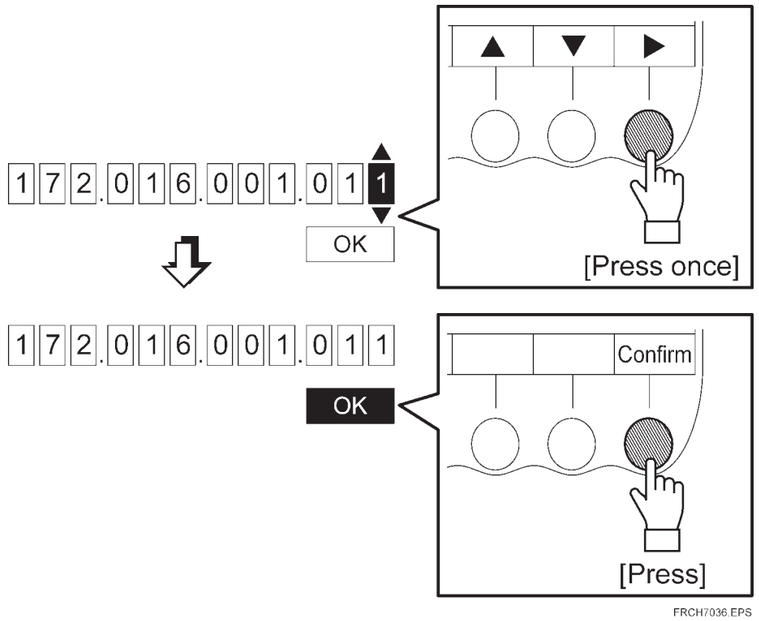
◆ *NOTE* ◆

Set the IP address of the RU specified on the CR Console.



FRCH7035.EPS

3. **Press the ▶ button once to select "OK". Then press the [Confirm] button.**

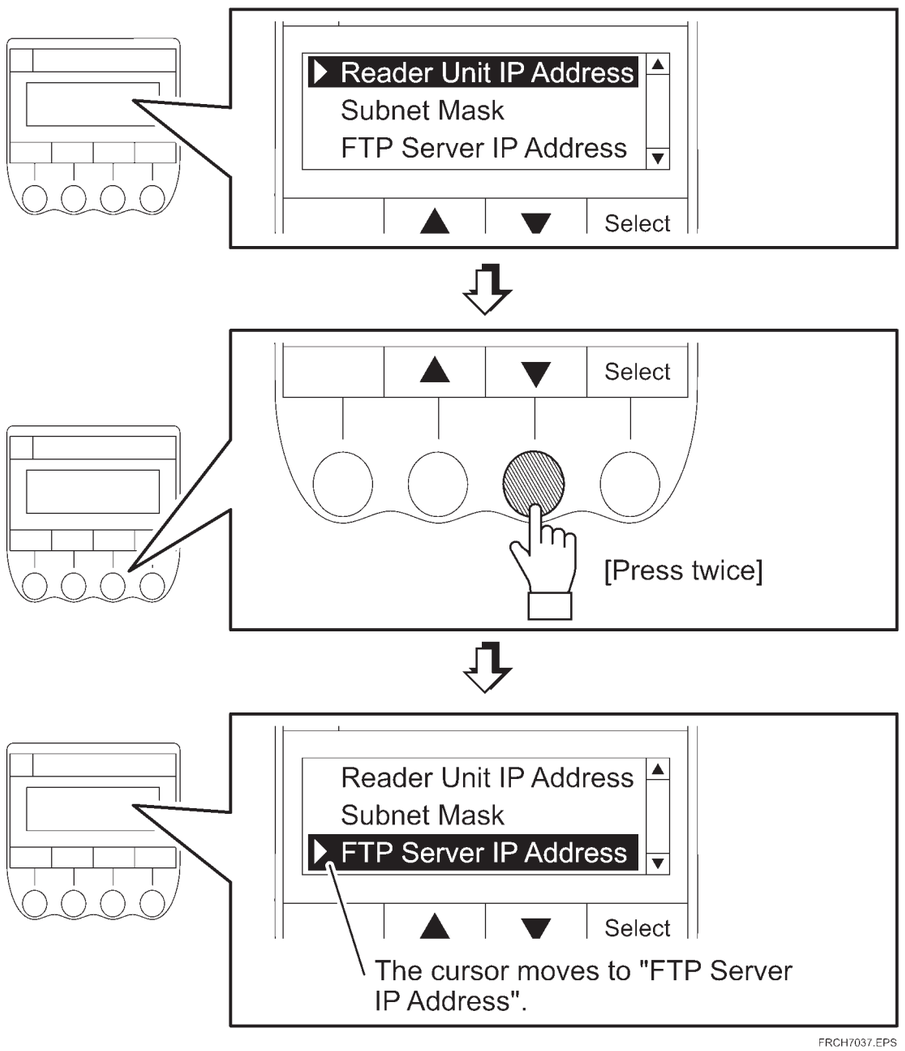


FRCH7036.EPS

→ In 1 to 2 seconds after the [Confirm] button is pressed, an alarm beeps. The specified address becomes effective, and the menu selection window restores.

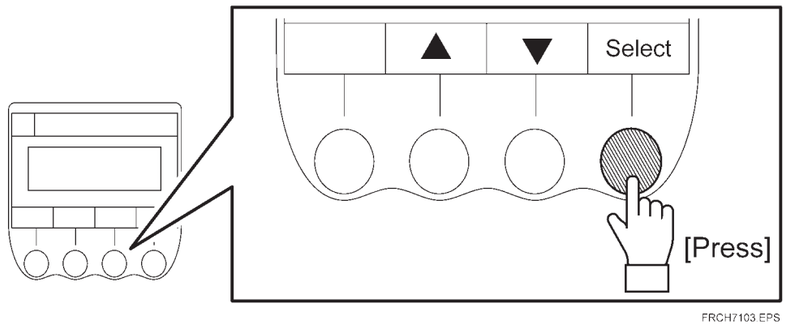
8.3 Setting the FTP Server IP Address

1. **Press the ▼ button twice, and select “FTP Server IP Address”.**



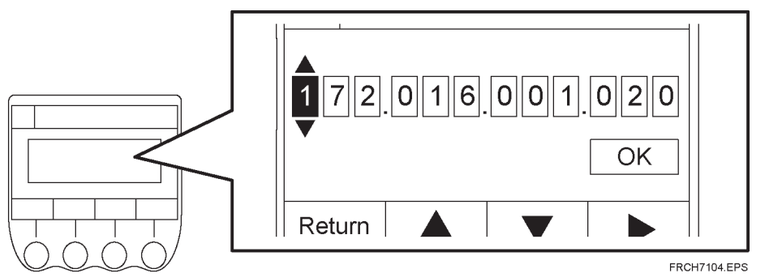
FRCH7037.EPS

2. **Press the [Select] button.**



FRCH7103.EPS

→ The address setting window appears.

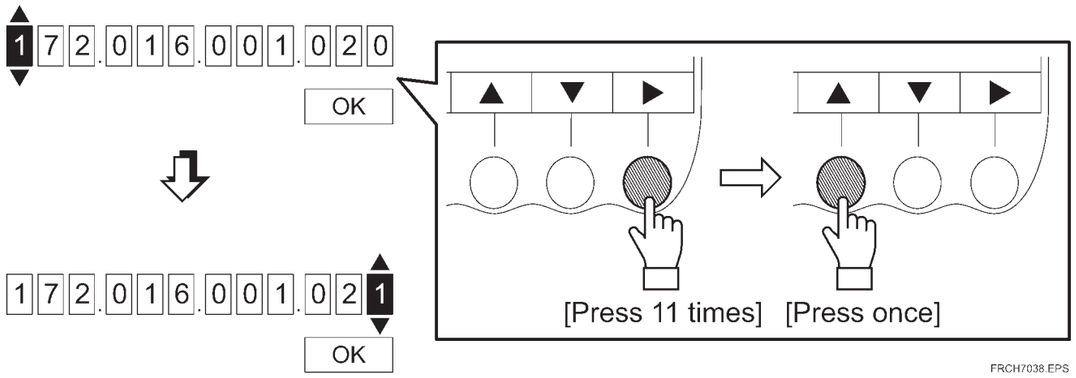


FRCH7104.EPS

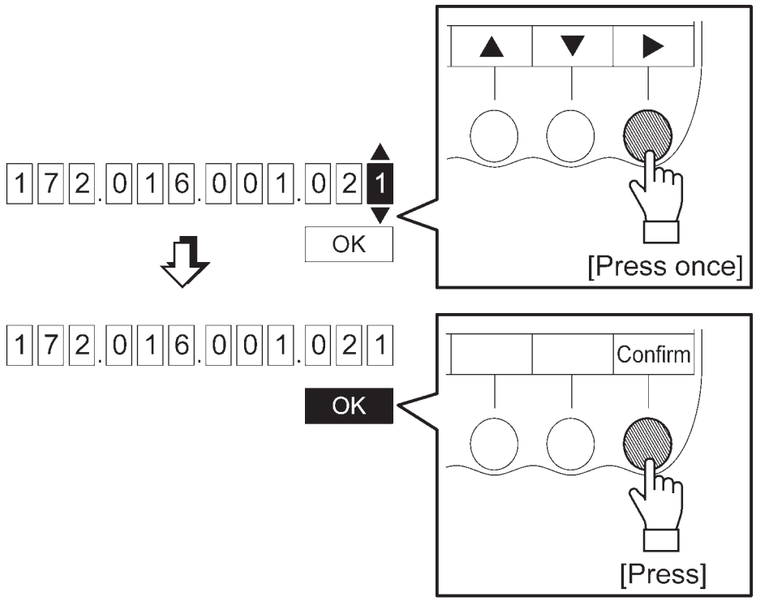
3. **Press the ▶ button 11 times, and press the ▲ button once.**

◆ ***NOTE*** ◆

Specify the IP address of the CR Console.



4. **Press the ▶ button once to select "OK". Then press the [Confirm] button.**



→ In 1 to 2 seconds after the [Confirm] button is pressed, an alarm beeps. The specified address becomes effective, and the menu selection window restores.

5. **Confirm the network specifications of the user's site, and set the following addresses when needed.**

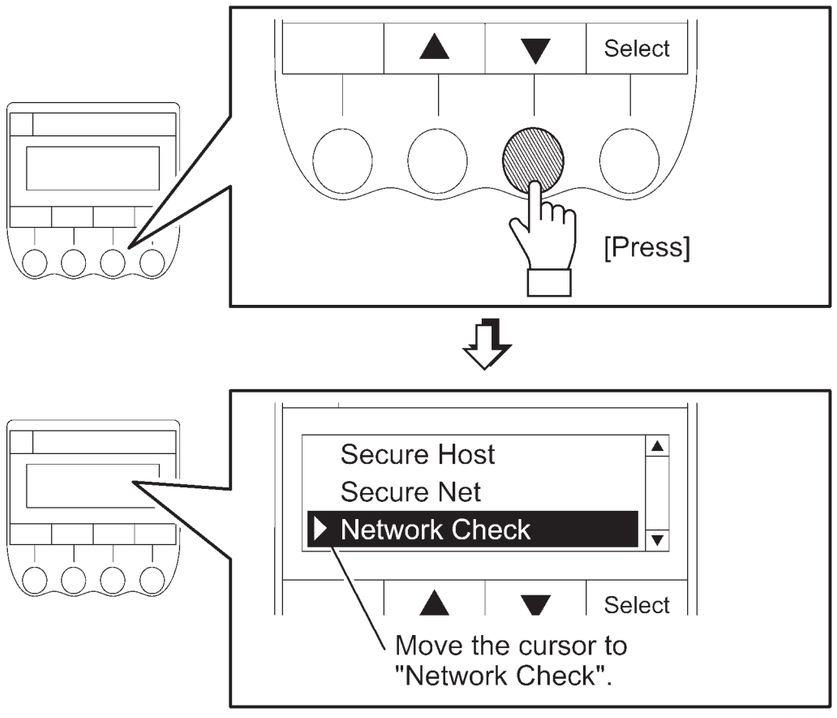
◆ ***NOTE*** ◆

Set the addresses by performing the individual setup procedures set forth in the Maintenance Utility volume.

- *For SubnetMask setup*
  ☞ ***{MU:3.3_SubnetMask}***
- *For Default Gateway setup*
  ☞ ***{MU:3.5_Default Gateway}***
- *For Secure Host setup*
  ☞ ***{MU:3.6_Secure Host}***
- *For Secure Net setup*
  ☞ ***{MU:3.7_Secure Net}***

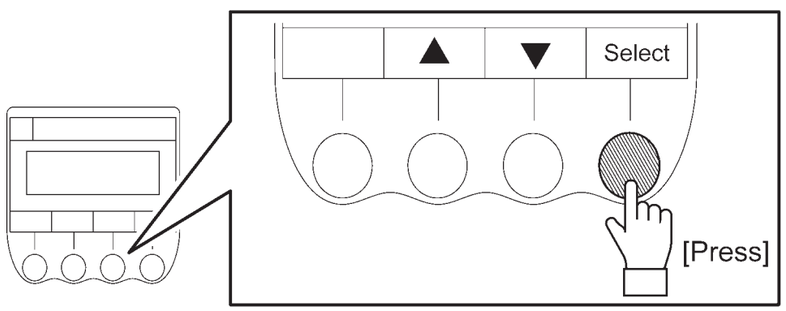
8.4 Checking the Connection with the CR Console

1. **Press the [▼] button, and select “Network Check”.**



FRCH7040.EPS

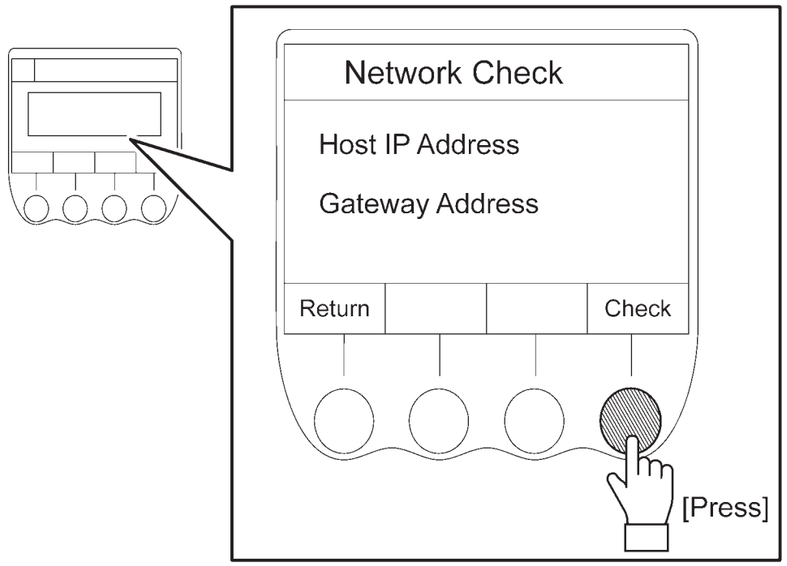
2. **Press the [Select] button.**



FRCH7103.EPS

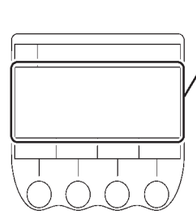
→ The “Network Check” window appears.

3. **Press the [Check] button.**



FRCH7078.EPS

4. **Confirm the display on the operation panel.**



● GOOD indication

Host IP Address	OK
Gateway Address	No in Use

● NO GOOD indication
"Error" appears in either line.

Host IP Address	Error
Gateway Address	Error

FRCH7041.EPS

◆ ***NOTES*** ◆

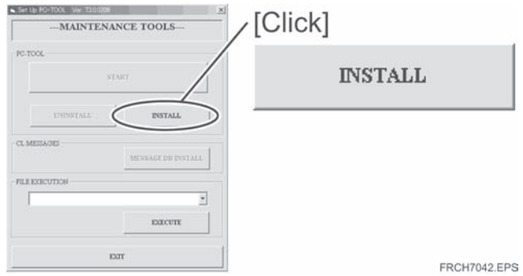
- *“OK” is displayed in the GOOD indication when “Default Gateway” is specified.*
- *Take the troubleshooting procedures when the NO GOOD indication appears.*
  ☞ ***{Troubleshooting}***

8.5 Installing the RU PC-TOOL

1. **Insert the RU-APL CD-ROM into the CD-ROM drive of the CR console.**

→ The “Set Up PC-TOOL” window automatically appears.

2. **Click on [INSTALL].**

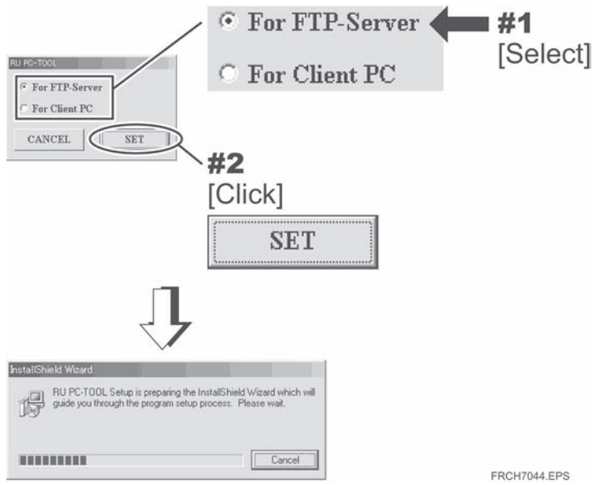


3. **Select “For FTP-Server”, and click on [SET].**

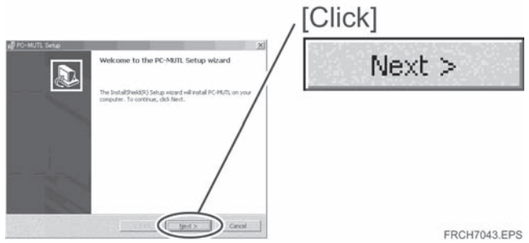
◆ ***NOTE*** ◆

Always select “For FTP-Server”. If “For Client PC” is selected, the installation cannot be done properly.
If you inadvertently click [SET] with "For Client PC" chosen, perform installation again as directed under "Appendix 8. Corrective Procedure to be Performed after Improper RU PC-TOOL Installation."

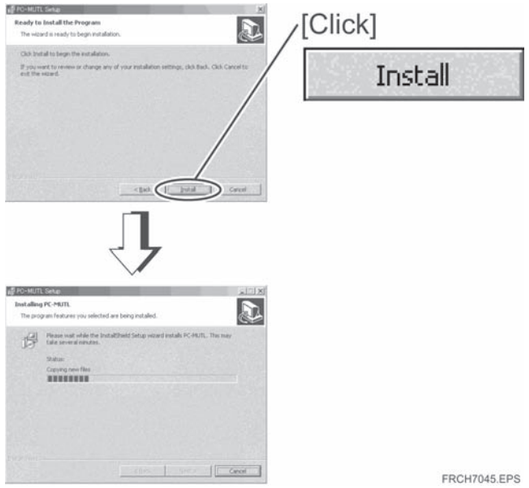
☞ ***{IN: Appendix 8._Corrective Procedure to be Performed after Improper RU PC-TOOL Installation.}***



4. **Click on [NEXT].**



5. **Click on [INSTALL].**



6. **Click on [Finish] when the installation is completed.**

→ You are then returned to the "Set Up PC-TOOL" window.

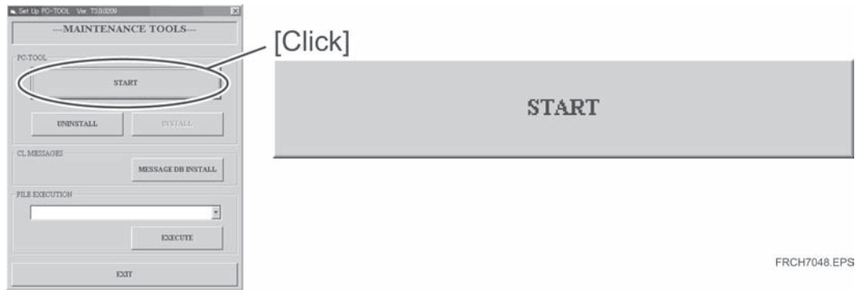
8.6 Installing RU Software

◇ *REFERENCE* ◇

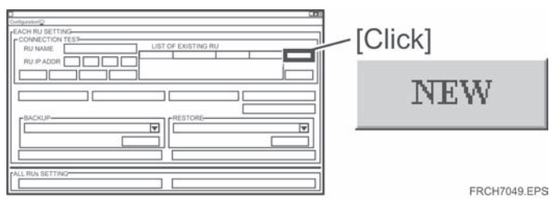
This section describes the procedures, by way of example, where settings are made as follows:

INSTALL VERSION: *1.1*
LANGUAGE: English
BRAND TYPE: U.S.A (FMSU)
SCREEN TYPE: *HOSPITAL*
LINAC CASSETTE: *NOT USE*

1. **Click on [START].**



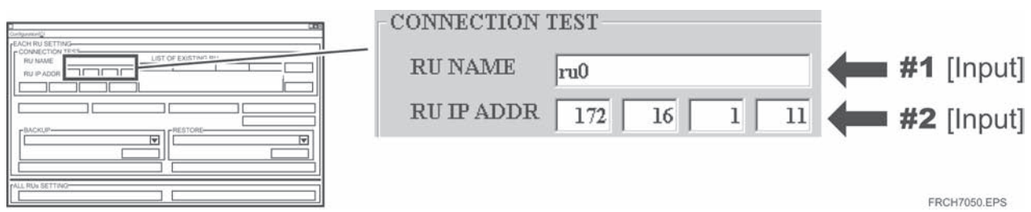
2. **Click on [NEW].**



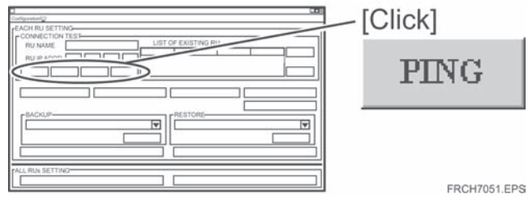
3. **Enter Install "RU NAME" and "RU IP ADDR".**

◆ ***NOTE*** ◆

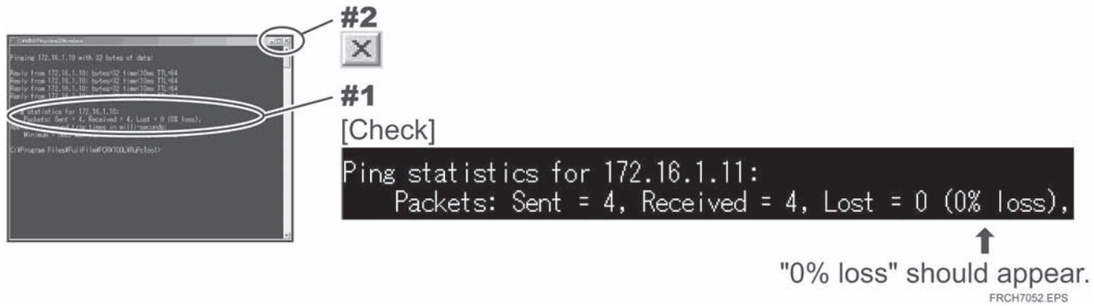
If the "Reader Unit IP Address" setting was changed from the RU operation panel before RU software installation, enter the changed address.



4. **Click on [PING].**



5. **Check the result of PING, and click on ☒ to close the window.**



- **[GOOD indication]**
  If the following message appears, the result is normal.
  | Ping statistics for 172.16.1.11: |
  | Packets: Sent = 4, Received = 4, Lost = 0 (0% loss), |

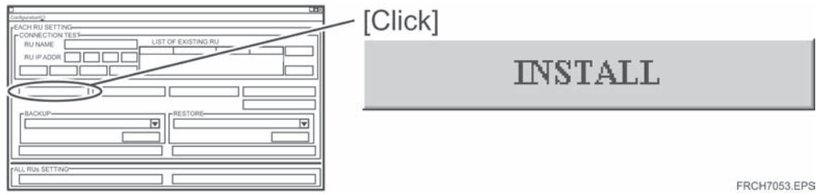
- **[NO GOOD indication]**
  Other than above is all abnormal. (The selected IP address of the RU is displayed.)

◆ ***NOTE*** ◆

In the case of "NO GOOD" indication

☞ ***{Troubleshooting}***

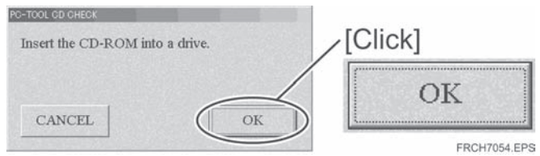
6. **Click on [INSTALL].**



◇ *REFERENCE* ◇

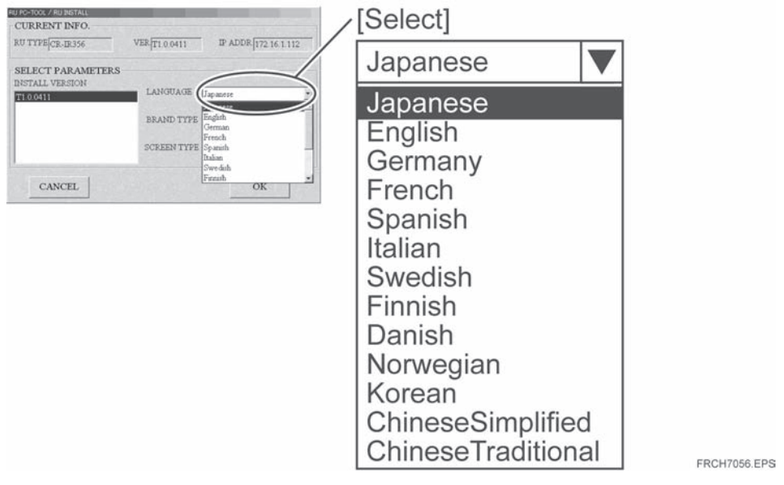
When clicking on [INSTALL], "Under maintenance" appears on the operation panel of the RU.

7. **Click on [OK].**

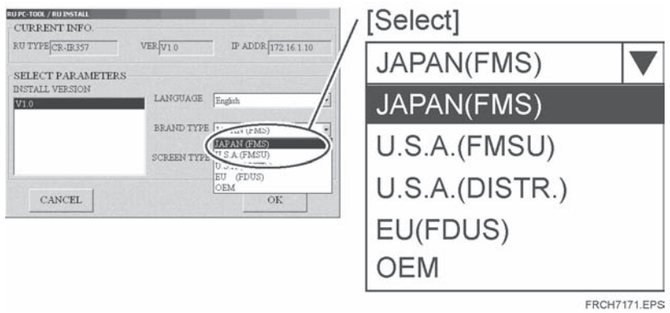


8. **Select "INSTALL VERSION".**

9. **Select "LANGUAGE".**



10. **Select "BRAND TYPE".**

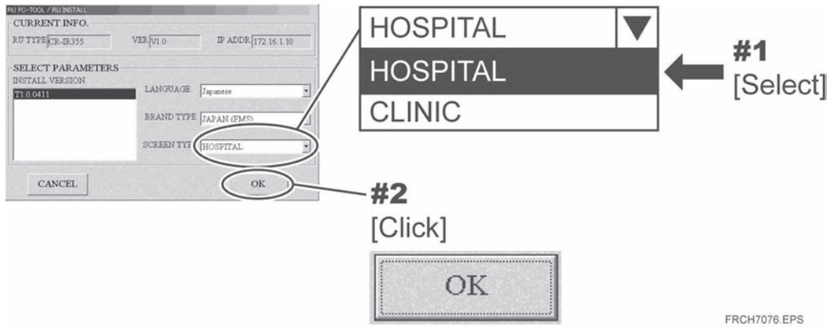


11. **Select an operation panel screen type (SCREEN TYPE), and then click [OK].**

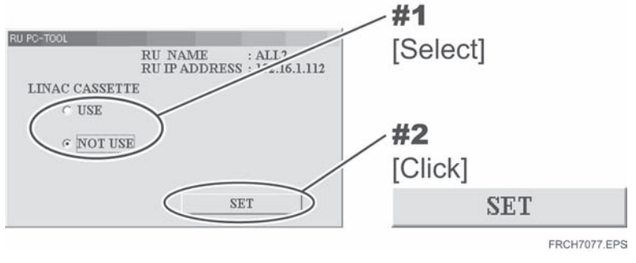
◆ ***NOTE*** ◆

The proper selection varies with a network connection between the RU and CR console. Make a proper selection in accordance with the employed network connection. If an improper selection is made, the connection between the RU and CR console is not guaranteed.

- *When a "1:1 connection" is established between the RU and CR console, choose "CLINIC."*
- *When an "N:N connection" is established between the RU and CR console, choose "HOSPITAL."*



12. **If a LINAC CASSETTE is to be used at the user's site, select "USE". If the LINAC CASSETTE is not to be used, select "NOT USE", and click on [SET].**



13. **If, for instance, the institution wishes to use nondefault CONFIGURATION information, edit the CONFIGURATION information by performing the procedure set forth under "4.13 EDIT CONFIGURATION" in the Maintenance Utility volume.**

☞ {MU:4.13_EDIT CONFIGURATION}

14. **Click on [SET].**

15. **Set "IP ADDRESS" and "CL NAME".**

◆ ***INSTRUCTION*** ◆

Enter IP ADDRESS of the CR Console to be connected with the RU.

◇ *REFERENCE* ◇

Up to 32 CR Console's may be registered as image transfer destinations. Of the CR Console's registered, up to four CR Console's are switchable as master CL's.

Up to 32 CL's may be registered as image transfer destinations.
Of the CL's registered, up to four CL's are switchable as master CL's.
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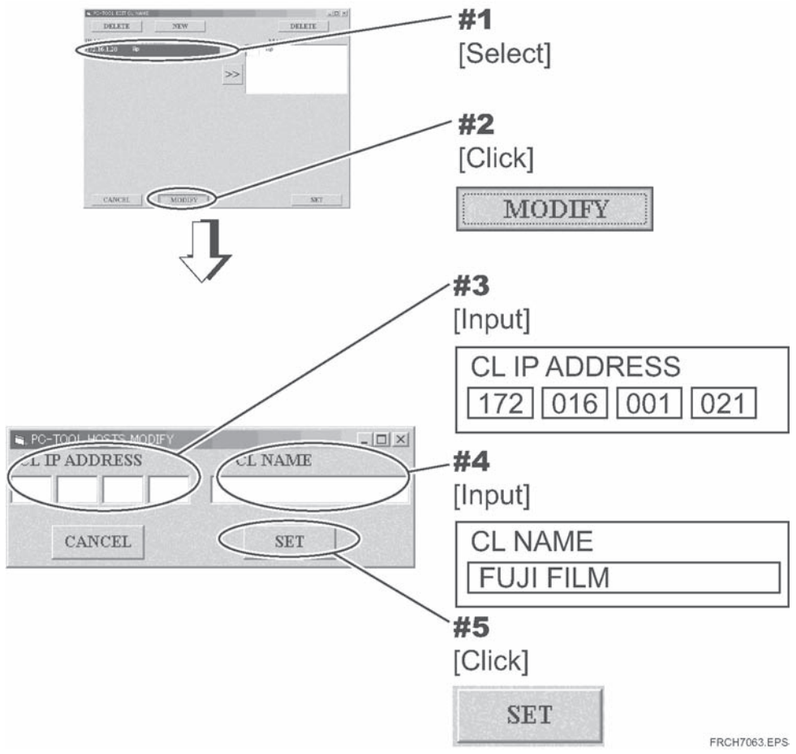
For more detail about the function that may be set on the "EDIT CL NAME" screen, see "4.14 EDIT CL NAME" of the Maintenance Utility volume.

☞ *{MU:4.14_EDIT CL NAME}*



16. **Confirm the installation precautions.**

⚠ CAUTION

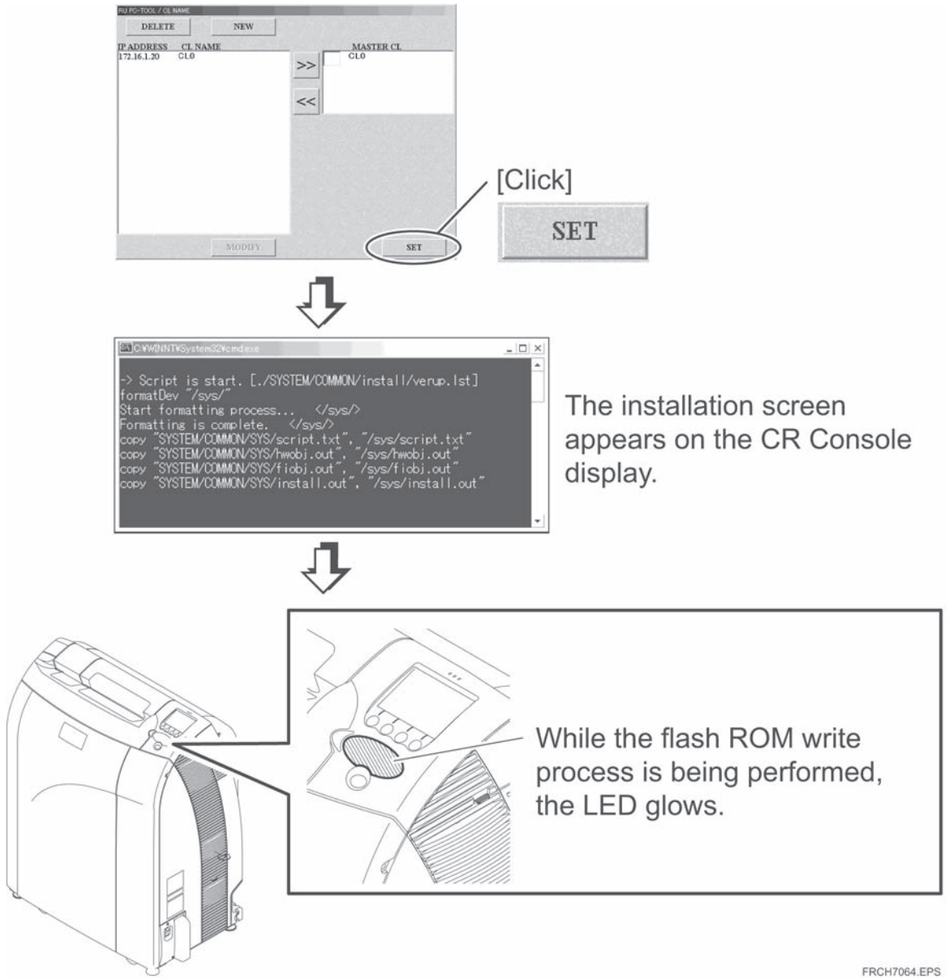
While the flash ROM is being written into, never turn OFF the RU or CR Console. If you turn OFF the power, the program stored in the memory becomes damaged and cannot restart.

17. **Click on [SET].**

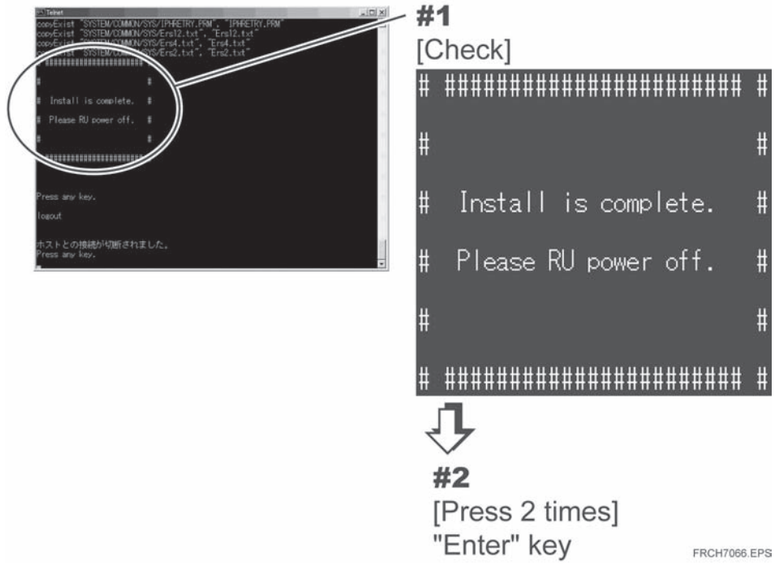
When you click on [SET], the installation screen appears on the CR Console display.
While the flash ROM is being written into, the RU's LED glows.

◆ NOTE ◆

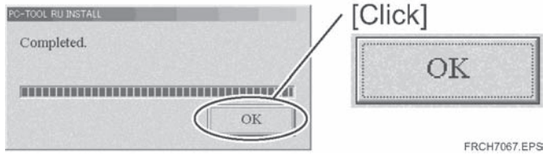
Do not close the installation screen until the flash ROM write process is completed. If you inadvertently close the installation screen, return to step 7 and perform the installation procedure again. The flash ROM write process takes about 8 minutes.



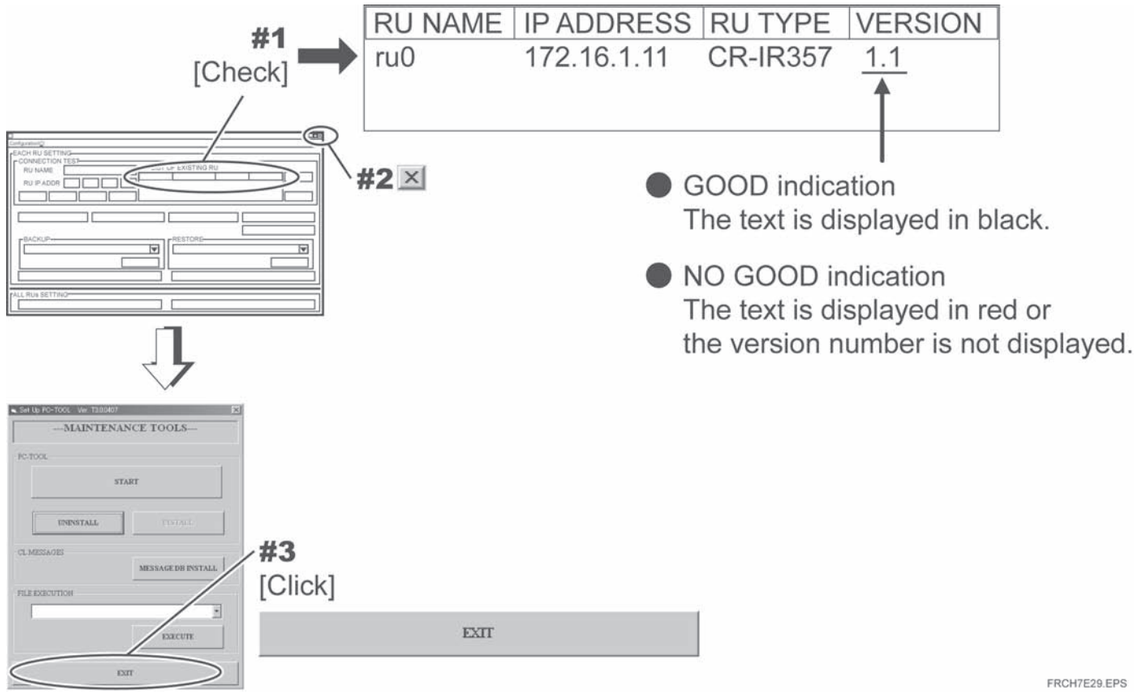
18. **Verify that the flash ROM write process is completed, and then press the [Enter] key twice.**



19. **Click on [OK].**



20. **Check the version of the RU software, and close RU PC-TOOL.**



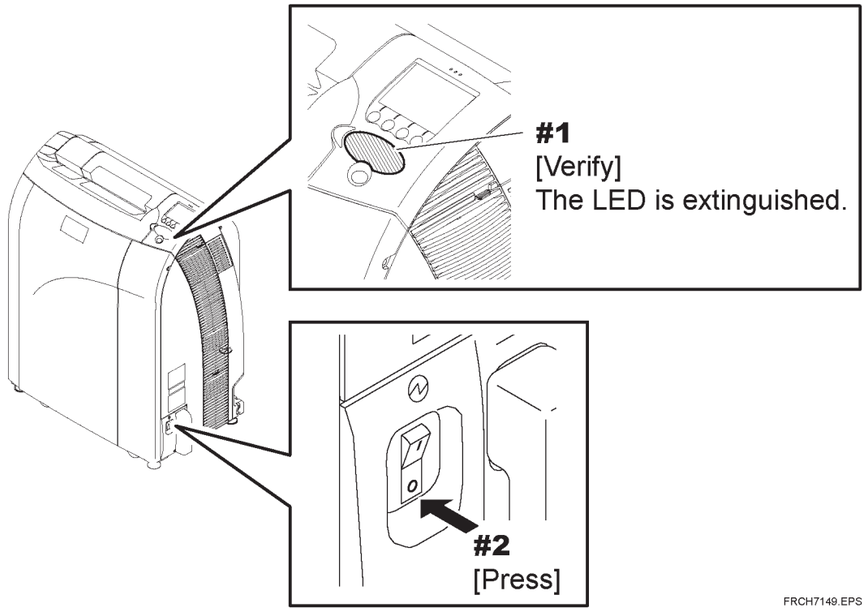
◆ NOTE ◆

In the case of "NO GOOD" indication, return to step 1 and perform install procedures all over again.

21. **Verify that the RU's LED is extinguished, and then turn OFF the RU.**

◇ *REFERENCE* ◇

The message "Under maintenance" is displayed on the operation panel. However, turning OFF the RU power does not affect the RU's functionality.



22. **Turn ON the power of the RU.**

9. Image/Conveyance Checks

In this section, the following checks are made as last-time verification for final placement.
- Conveyance checks
- Image checks

9.1 Check Before Procedures

◆ *NOTES* ◆

- *For the IP used for image/conveyance checks, an IP of the maximum size used in the hospital should be employed.*
- *Make sure that the IP to be used does not contain any important image data exposed.*

1. **Check to ensure that the "READY" screen appears.**

◇ *REFERENCE* ◇

The screen contents of the RU's operation panel vary with the LANGUAGE and SCREEN TYPE selections made during installation. For details on the screen contents of the RU's operation panel, see "1.3.3 Operation Panel Display Screen Contents" in the "Machine Description" volume.

☞ ***{MD:1.3.3_Operation Panel Display Screen Contents}***

2. **Perform "Secondary Erasure" on the spontaneous radiation and image accumulated on the IP to be used.**

☞ **{Instruction Manual}**

3. **Perform IP exposures.**

◆ *NOTE* ◆

Expose the IP at X-ray tube voltage of 80 kVp. Otherwise, the image check cannot be done normally.

◆ *INSTRUCTIONS* ◆

- *Expose two IPs of the largest size to be used at the user's site to the following dose.*
- *With the X-ray tube, the first IP should be exposed in a normal orientation, and the second in a 180-degree upside-down orientation.*

- X-ray tube: Tungsten X-ray tube
- Exposure X-ray dose: 1 mR
- Maximum size: IP of 14" x 14" (35 cm x 35 cm) or 14" x 17" (35 cm x 43 cm) size
- Reference conditions: Distance 1.8 m
  Voltage 80 kVp
  Amperage 50 mA
  Time 0.013 sec

9.2 Image/Conveyance Checks

◆ *NOTE* ◆

Because the "MENU" and so forth differ depending on the IP type, image checks should be performed with the "MENU" specified below.

1. **Read the IP prepared in “9.1 Check before procedures” by the CR Console menus “QC/TEST” and “Image Format” or “Image Format-2” and “SINGLE”, and output an image.**

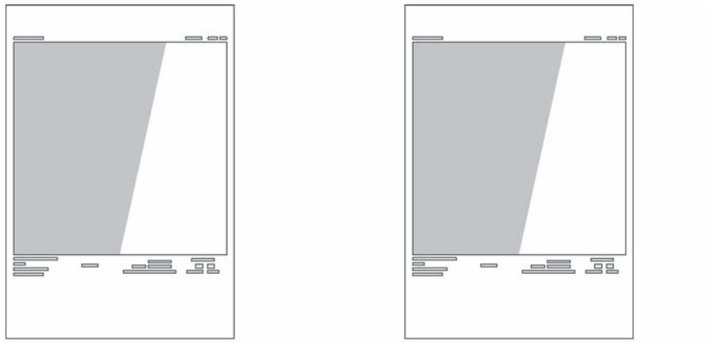
2. **Verify that there is no "unusual nonuniformity" found on the output film or on the image displayed on the image monitor.**

◆ *CHECK* ◆

There should be no uneven density difference in the main scan direction.

If there is any uneven density difference, compare the films outputted from the two IPs of the same size, and determine whether such nonuniformity is caused by the machine or X-ray tube.

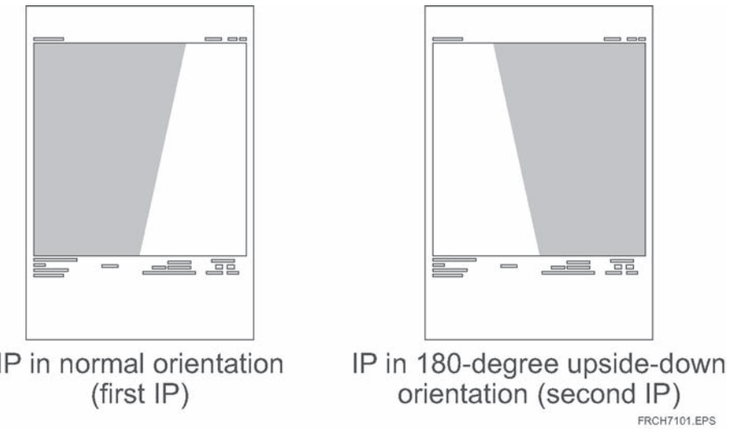
- **If there is uneven density difference in the same direction on two films**



→ The machine may be the cause of such nonuniformity.

☞ **{Troubleshooting}**

- **If positions of uneven density difference are different**



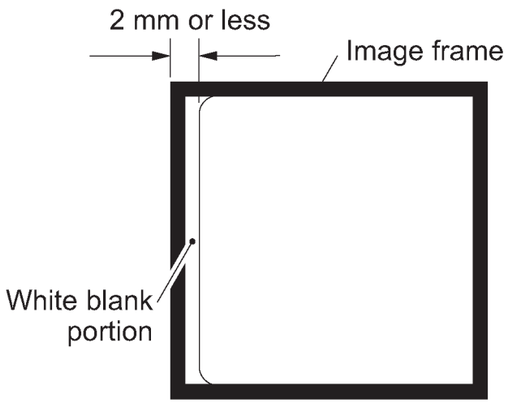
→ The X-ray tube may be the cause of such nonuniformity.

3. Check the image format.

Make sure that the white blank portion is 2 mm or less, as actually measured on the IP, from the outermost edge of the image frame of the film outputted.

◆ ***CHECK*** ◆

The white blank portion should be 2 mm or less.
If anything abnormal is found:
☞ ***{Troubleshooting}***



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◆ ***NOTE*** ◆

The distance measured on the film may differ from the actual size on the IP, depending on the reading size and film size. The actual size on the IP should be calculated using the distance measured on the film and the reduction factor for the film. Compute the actual size on the IP according to the following equation.

$$\text{Actual size on IP} = \text{Measured value} \times \frac{100}{\text{Reduction factor (\%)}}$$

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10. Confirming the S Value

The procedure set forth below is used to read an IP, which has been exposed to 1 mR of radiation, during a 1-minute period between 10 and 11 minutes after an X-ray exposure, output the read image, and check that the S value for 1 mR of radiation, which is determined from the displayed S value and average dose value, is within the control limits.

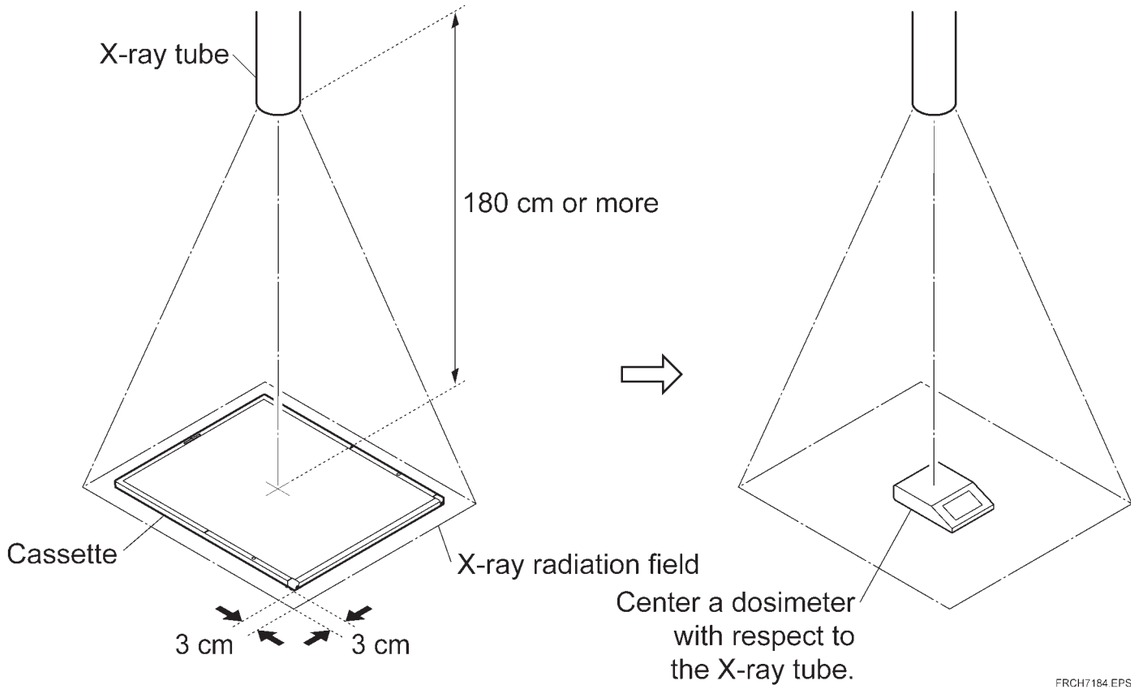
◇ *REFERENCE* ◇

The method for calculating the S value control limits is outlined below:

- S value control limits for user adjustments
  Upper limit: 200 x 1.5 = 300
  Lower limit: 200/1.5 = 133
- S value control limits for service technician adjustments
  Upper limit: 200 x 1.3 = 260
  Lower limit: 200/1.3 = 154

To eliminate the necessity for adjusting the machine within a short period of time after service technician inspection/adjustment, the S value control range for service technician adjustments is narrower than that for user adjustments.

1. **Position a cassette so that the cassette center coincides with the X-ray radiation field center. Perform setup so that the X-ray radiation field outline is approximately 3 cm outside the cassette outer frame. Temporarily remove the cassette and then position a dosimeter at the radiation field center.**



2. **Set the tube voltage to 80 kVp. Confirm the exposure conditions under which the radiation dose is 1 mR.**

◆ ***NOTE*** ◆

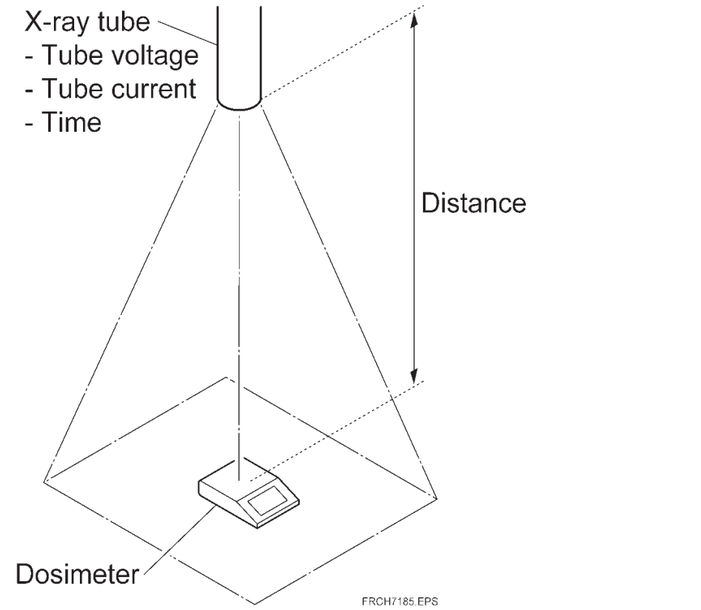
If the radiation dose measured by the dosimeter is not 1 mR, leave the tube voltage at 80 kVp and adjust the distance, tube current, and time to obtain a radiation dose of 1 mR. Record the adjusted exposure conditions.

- Distance: ___cm
- Tube voltage: ___kVp
- Tube current: ___mA
- Time: ___sec

◇ *REFERENCE* ◇

If the exposure conditions are unknown, use the following values as the reference values and make fine adjustments:

- Distance: 180 cm
- Tube voltage: 80 kVp
- Tube current: 50 mA
- Time: 0.013 sec



3. **Under the exposure conditions confirmed in step 2, measure the radiation dose five times and average the measured values.**

--- Example ---

First measurement	Second measurement	Third measurement	Fourth measurement	Fifth measurement	Average value
0.9	1.0	1.1	1.2	1.0	1.04

4. **Enter the exposure conditions and the average radiation dose determined in step 3 in the "FCR S Value Control Table."**

5. **Subject the natural radiation and image stored on the employed IP to secondary erasure.**

☞ **{Instruction Manual}**

◆ ***NOTE*** ◆

Before secondary erasure, confirm that no important image data is recorded on the employed IP.

6. **Under the exposure conditions confirmed in step 2, expose a 14" x 14" (35 cm x 35 cm) or 14" x 17" (35 cm x 43 cm) IP to X-ray radiation.**

◆ ***NOTE*** ◆

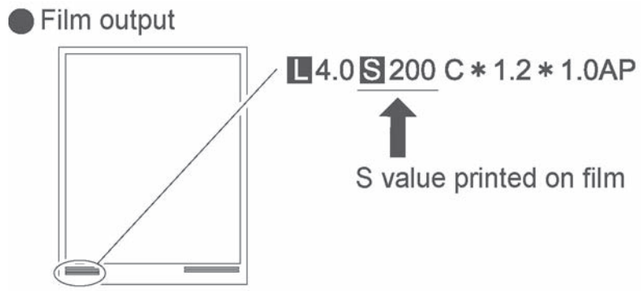
Use the largest size IP of all the IPs used at the institution.

7. **Read the IP exposed in step 6 during a 1-minute period between 10 and 11 minutes after the exposure by using the "QC/TEST," "Image Format" or "Image Format - 2," and "SINGLE" CR Console menus, and then output the read image.**

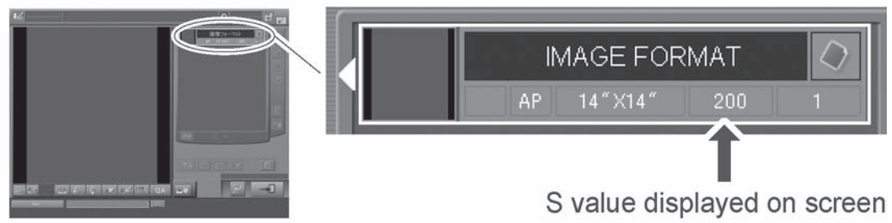
8. **Determine the "S value for 1 mR of radiation" from the displayed S value (the S value printed on the film or displayed on the CR Console screen) and the average radiation dose value obtained in step 3.**

--- Example ---
Displayed S value: 200
Average radiation dose value obtained in step 3: 1.04

● Film output



● CR Console screen



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S value for 1 mR of radiation = Displayed S value x average radiation dose value
= 200 x 1.04
= 208

9. **Check that the "S value for 1 mR of radiation," which was determined in step 8, is within the control limits.**

--- Example ---

Lower control limit value < 208 < Upper control limit value
154 < 208 < 260

Check that the "S value for 1 mR of radiation," which was determined in step 8, is between the upper and lower control limit values.

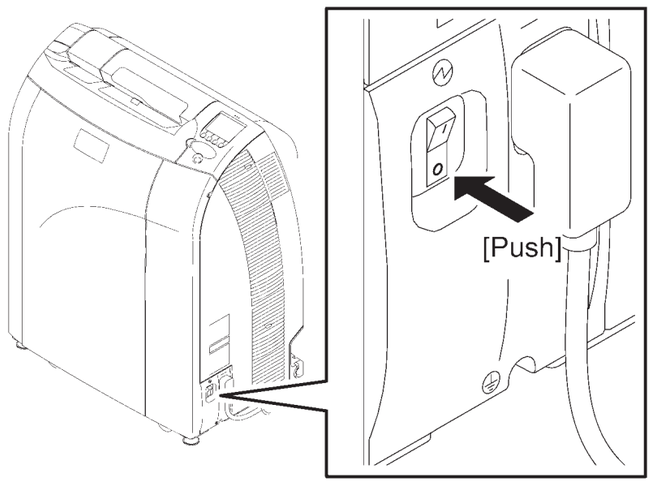
◆ ***NOTE*** ◆

If the "S value for 1 mR of radiation," which was determined in step 8, is not between the upper and lower control limit values, make sensitivity correction as directed in "15.3 Sensitivity Correction" and then confirm the S value again.

☞ ***{MC:15.3_Sensitivity Correction}***

11. Powering OFF the CR Console/RU

1. Shut down the system of the CR Console.
2. Shut down the system of the RU.
3. Turn OFF the power of the RU.



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12. Cleaning the CR Console/RU

1. Clean the monitor and covers of the CR Console with a dry cloth.
2. Clean the covers of the RU with a moistened cloth.
3. Peel the seal off the operation panel.

13. Lead Precaution Label

1. **Apply the lead precaution label suitable for the local language.**

撮影マーカーなどは外してカセッテを挿入してください。

MAKE SURE TO REMOVE ALL EXPOSURE MARKERS USED AT THE TIME OF EXPOSURE BEFORE INSERTING THE CASSETTE.

ACHTEN SIE BITTE DARAUF, VOR EINSCHIEBEN DER KASSETTE ALLE BEI DER BELICHTUNG VERWENDETEN BELICHTUNGSMARKIERUNGEN ZU ENTFERNEN.

S'ASSURER QUE LES REPÈRES D'EXPOSITION SONT BIEN ENLEVÉS AVANT D'INTRODUIRE LA CASSETTE.

ASSICURARSI CHE SIANO RIMOSSI TUTTI I MARCATORI DI ESPOSIZIONE USATI AL MOMENTO DELL' ESPOSIZIONE PRIMA DI INSERIRE LA CASSETTA.

ASEGÚRESE DE QUITAR TODAS LAS MARCAS DE EXPOSICIÓN UTILIZADAS PARA LA EXPOSICIÓN ANTES DE INSERTAR EL CASETE.

TILLSE ATT ALLA EXPONERINGSMÄRKEN SOM ANVÄNTS VID EXPONERING ÄR AVLÄGSNADE INNAN DU SÄTTER IN KASSETTEN.

SØRG FOR AT FJERNE ALLE EKSPONERINGSMARKERINGER, ANVENDT VED EKSPONERING, FØR KASSETTEN SÆTTES I.

PASS PÅ Å FJERNE ALLE EKSPONERINGSANVISERE SOM ER BRUKT VED EKSPONERINGEN FØR KASSETTEN ISETTES.

촬영마커 등은 벗겨내고 카세트를 투입하여 주십시오.

請在取下攝影標記等之後插入暗盒。

请在取下摄影标记等之后插入暗盒。

VALOTUKSEN AIKANA KÄYTETYT VALOTUSMERKIT ON EHDOTTOMASTI POISTETTAVA ENNEN KASETIN ASETTAMISTA.

ANTES DE INSERIR O CASSETE, CERTIFIQUE-SE DE REMOVER TODOS OS MARCADORES DE EXPOSIÇÃO UTILIZADOS PARA A EXPOSIÇÃO.

ZORG ERVOOR DAT ALLE BIJ DE BELICHTING GEBRUIKTE BELICHTINGSMARKERINGEN VERWIJDERD ZIJN VOOR DE CASSETTE WORDT INGEBRACHT.

ΣΙΓΟΥΡΕΥΤΕΙΤΕ ΟΤΙ ΑΦΑΙΡΕΣΑΤΕ ΟΛΟΥΣ ΤΟΥΣ ΔΕΙΚΤΕΣ ΕΚΘΕΣΗΣ ΠΟΥ ΧΡΗΣΙΜΟΠΟΙΗΘΗΚΑΝ ΚΑΤΑ ΤΗΝ ΔΙΑΡΚΕΙΑ ΤΗΣ ΕΚΘΕΣΗΣ ΠΡΟΤΟΥ ΠΑΡΕΜΒΑΛΛΕΤΕ ΤΗΝ ΚΑΣΕΤΑ.

ПЕРЕД ТЕМ, КАК ВСТАВИТЬ КАССЕТУ, ОБЯЗАТЕЛЬНО УДАЛИТЕ С НЕЕ ВСЕ ОТМЕТКИ, НАКЛЕЕНЫЕ ВО ВРЕМЯ СЬЕМКИ.

PŘED VLOŽENÍM KAZETY ODSTRAŇTE Z NÍ VŠECHNY EXPOZIČNÍ ŠTÍTKY.

PRZED WŁOZENIEM KASETY USUN WSZYSTKIE OZNACZENIA POMOCNICZE UŻYWANE PODCZAS EKSPOZYCJI.

A KAZETTA BEHELYEZÉSE ELŐTT A KAZETTA HÁTOLDALÁN TALÁLHATÓ EXPOZICIÓS PARAMÉTEREK JELZÉSEIT FELTÉTLENÜL TÁVOLITSA EL.

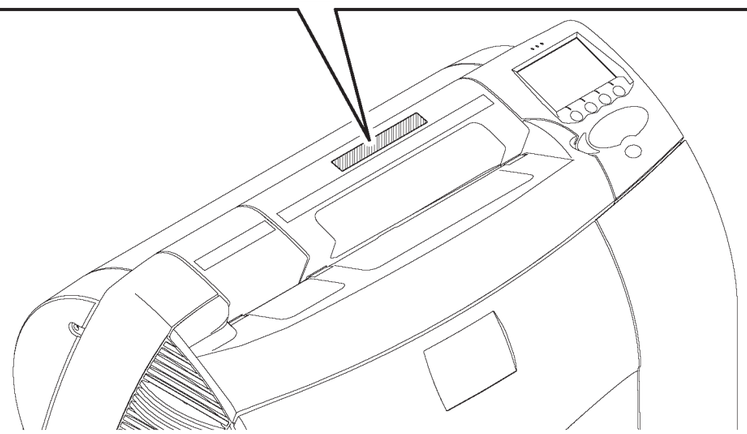
ודא להסיר כל תווי צילום לפני הכנסת הקלטת

กรุณาเอาเครื่องหมายคำแสดงต่าง ๆออกจากคาสเซ็ทให้เรียบร้อย ก่อนที่จะใส่คาสเซ็ท

HÃY LỘT BỎ MIẾNG GIẤY GHI NHỮNG CHI TIẾT CŨ KHỎI CASSETTE RỒI HÃY CHO VÀO.

PASTIKAN BAHWA SELURUH MARKER YANG DIGUNAKAN SAAT PENYINARAN SUDAH DILEPAS SEBELUM MEMASUKKAN KASET.

KASETİ TAKIMADAN ÖNCE CEKİM ESNASINDA KULLANILAN BÜTÜN İŞARETLERİ KALDIRNIZ.



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Appendix 1. ADDITIONAL PROTECTIVE GROUNDING

Additional protective grounding will be required if installing this equipment in the patient environment with the connected equipment in a non-medically used room. Refer to Medical System Standard, IEC60601-1-1.
However, there may be cases where additional protective grounding is not possible. (For example in cases like non-metallic faceplate screws as well as boxes and isolated supply systems etc.) If this should happen, please refer to “Counter-measures for additional protective grounding” on the next page.
This installation work should only be performed by persons certified to handle electrical facility construction.
Definitions of “patient environment”, “medically-used room”, and “non-medically used room” are given below.

● Patient Environment

Patient environment is the area for the patient to receive medical procedures (treatment, tests, diagnosis, monitoring). It is the space measuring 2.5 m in all four directions and 2.5 m in height from the area of the patient’s body.
It excludes the space traveled by the patient to reach the medically-used room.

● Medically-Used Room

Room equipped with protective grounding (medical use outlet or medical use grounding terminal) implemented by the medical grounding method. The protective grounding inside the medically-used room is equipotential, and the protective grounding of this medically-used room is equipotential to that in the other medically-used room.
Generally, a portion of the medically-used room is the patient environment.

● Non-Medically Used Room

Areas outside the medically-used room are considered the non-medically used room.

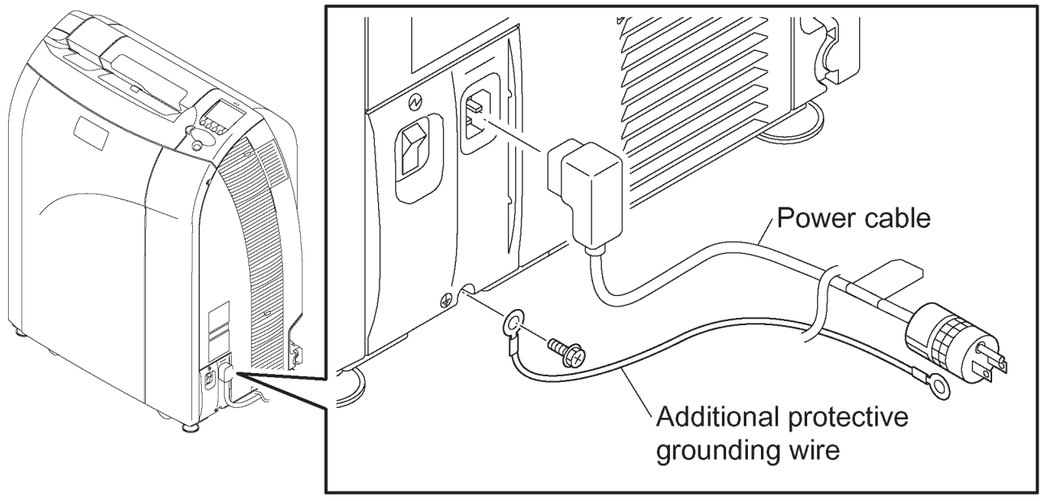
■ Connection Locations of Cables for Additional Protective Grounding of the Equipment and Clamp Locations

◆◆ INSTRUCTION ◆◆

Please use power supply cord and clamp (which is required for keeping the additional protective ground cord in position) approved by the electrical standard of the country to which the equipment is to be installed.

<Counter-measures for additional protective grounding>

1. *Engage the services of a professional to make the necessary preparations for the connection of additional protective grounding.*
2. *If the connected device possess a hospital grade earth terminal and is mobile, move the connected device and replace with a power supply plug which has hospital grade earth terminal.*
3. *Install a isolating transformer to the connected device. In this way, the power supply from the connected device will be separated from the main power supply.*



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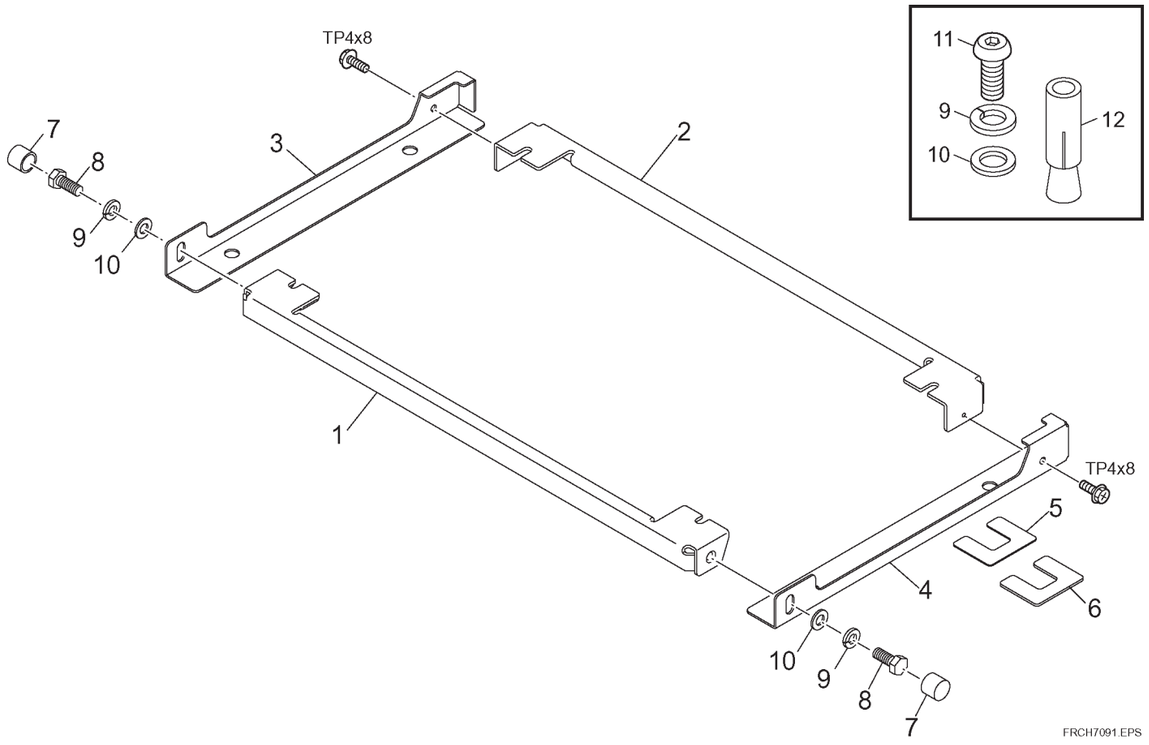
Appendix 2. Securing the Machine with the Anti-Topple Retainer

1. Components of Anti-Topple Retainer Kit



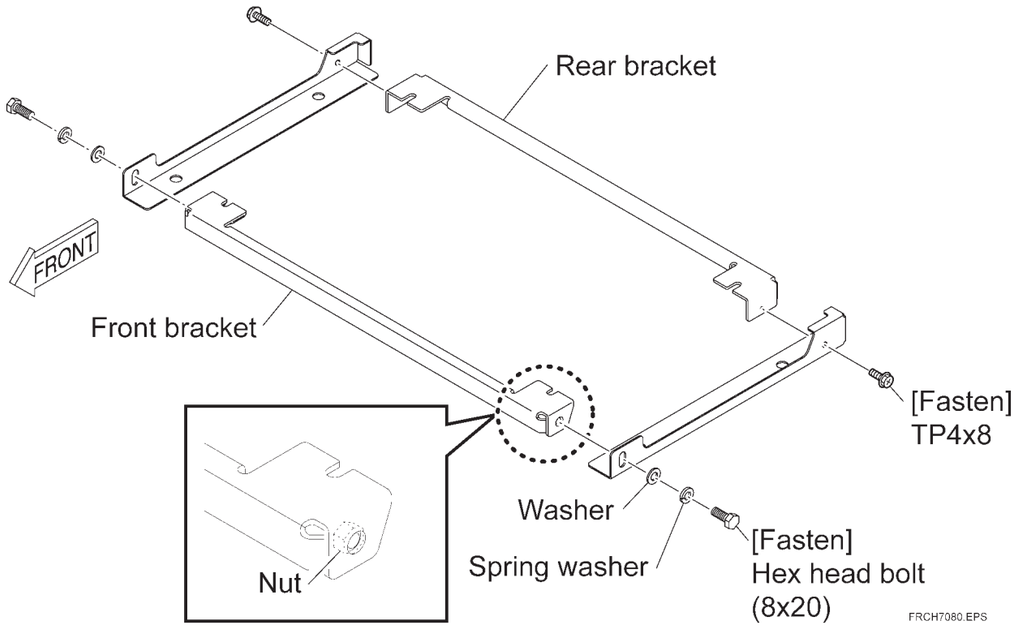
No.	Name	Qty.	Remarks
1	Bracket (front)	1	356Y0475
2	Bracket (rear)	1	356Y0502
3	Bracket (left-hand side)	1	356Y0499
4	Bracket (right-hand side)	1	356Y0498
5	Spacer (1 mm)	6	347N2108
6	Spacer (2 mm)	4	347N2109
7	Cap	2	317S1064
8	Hex head socket bolt (8x15)	2	304S1000820
9	Spring washer (SW8)	6	309S0220008
10	Plain washer (W8)	6	309S0110008
11	Hex socket head button bolt (8x20)	4	304S5000820
12	Anchor nut (Na8)	4	305S0080

2. Securing the Machine with the Anti-Topple Retainer

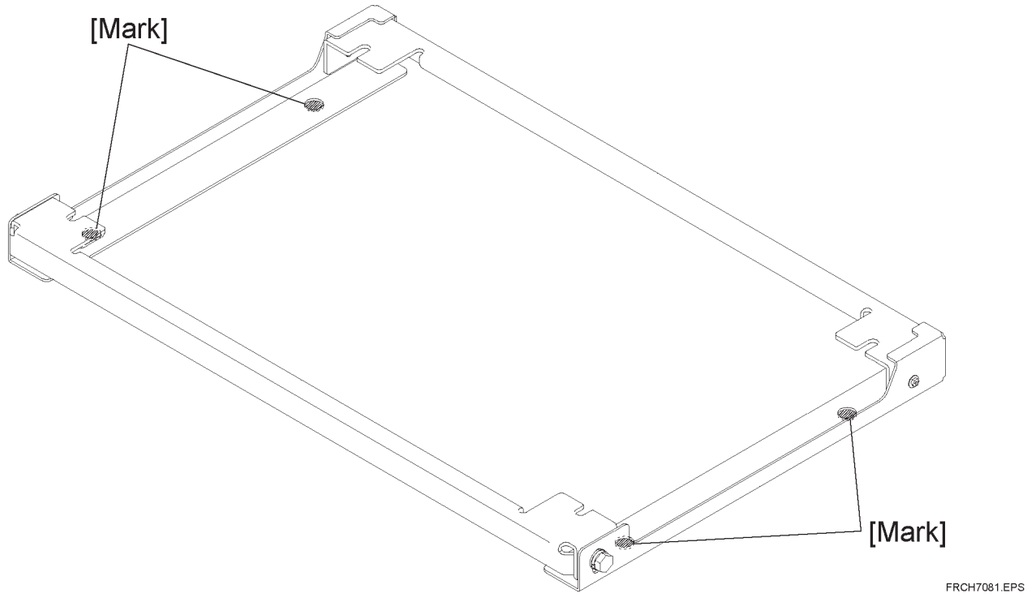
1. Assemble the anti-topple retainer to determine the locations where the anchor nuts are to be embedded.

◇ *REFERENCE* ◇

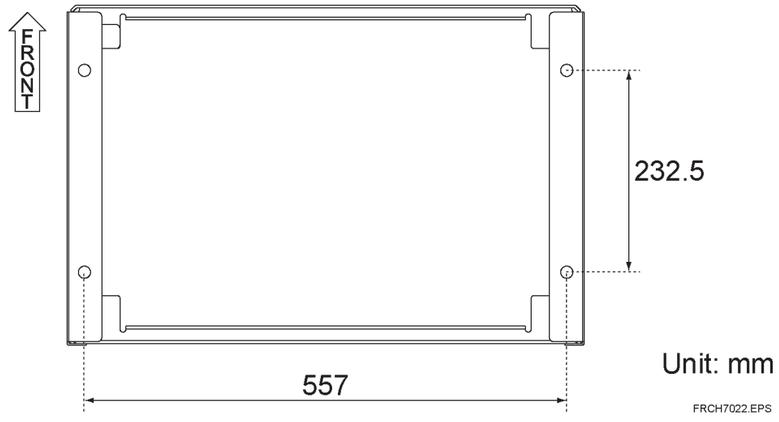
The front bracket (for use on the front face) and the rear bracket (for use on the rear face) of the anti-topple retainer have different shapes. Although they are of similar shapes when viewed from the surface, you can distinguish them by checking from the back.
The front bracket has nuts welded on the inner side.
The rear bracket has no nut welded on the inner side.



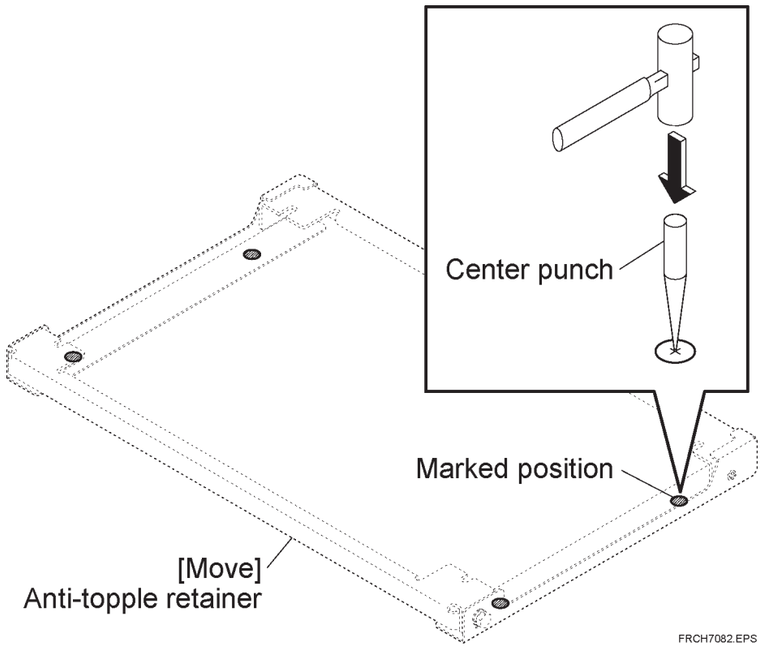
2. Place the assembled anti-topple retainer on the location where the machine is to be settled. While holding not to cause the anti-topple retainer to shift, mark the locations where the holes for embedding the anchor nuts are to be bored with a pen or the like.



<Reference value>



3. **Once move the anti-topple retainer. Strike a center punch at the center of a marked position to easily drill a hole.**



4. **Drill holes with a diameter of 12.5 mm and a depth of 35 mm at the four marked positions.**

⚠ CAUTION

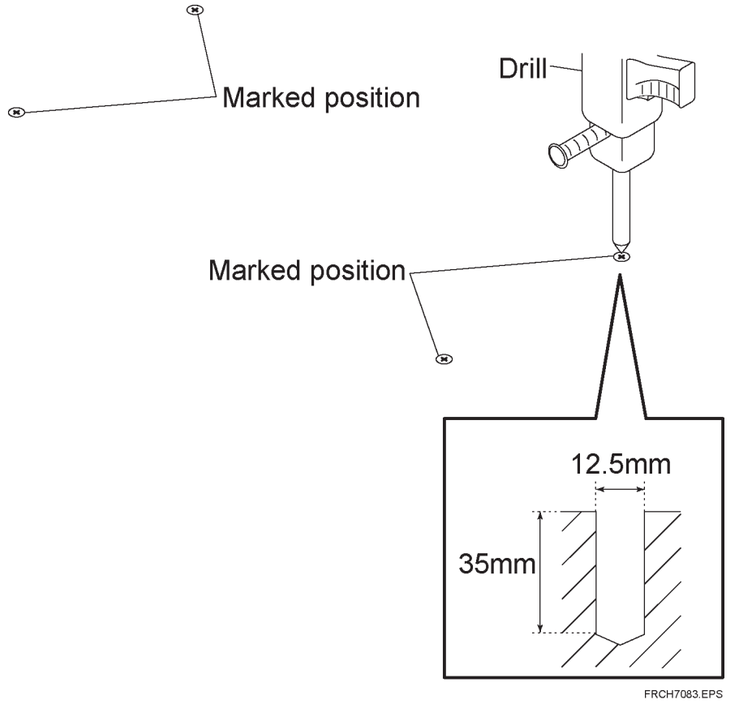
When drilling a hole, wear protective goggles. Drilled chips might scatter.

◆ NOTE ◆

When drilling a hole, exercise care not to tilt the drill. If the drill is tilted, the anchor nut cannot be embedded straight. As a result, there is possibility that the anti-topple retainer cannot be correctly retained.

◇ *REFERENCE* ◇

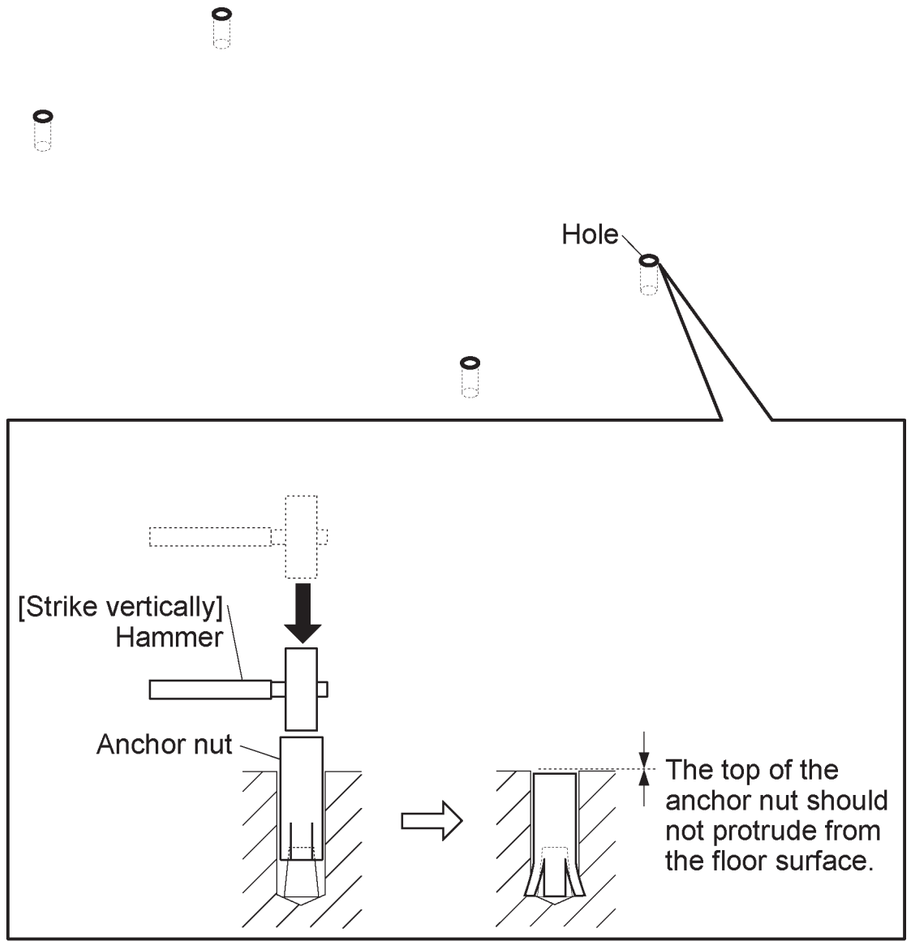
When drilling a hole, use of a vacuum cleaner is recommended. If the hole is drilled while sucking the chips by the vacuum cleaner, the depth of the hole can be easily checked.



5. **Strike the anchor nut by a hammer to embed the nut into the four drilled holes.**

◆ ***NOTES*** ◆

- *When embedding the anchor nut, strike the top of the anchor nut vertically to the nut. If the top of the anchor nut deforms, the bolt for retaining the bracket cannot be installed.*
- *Embed the anchor nut until its top does not protrude from the floor surface.*



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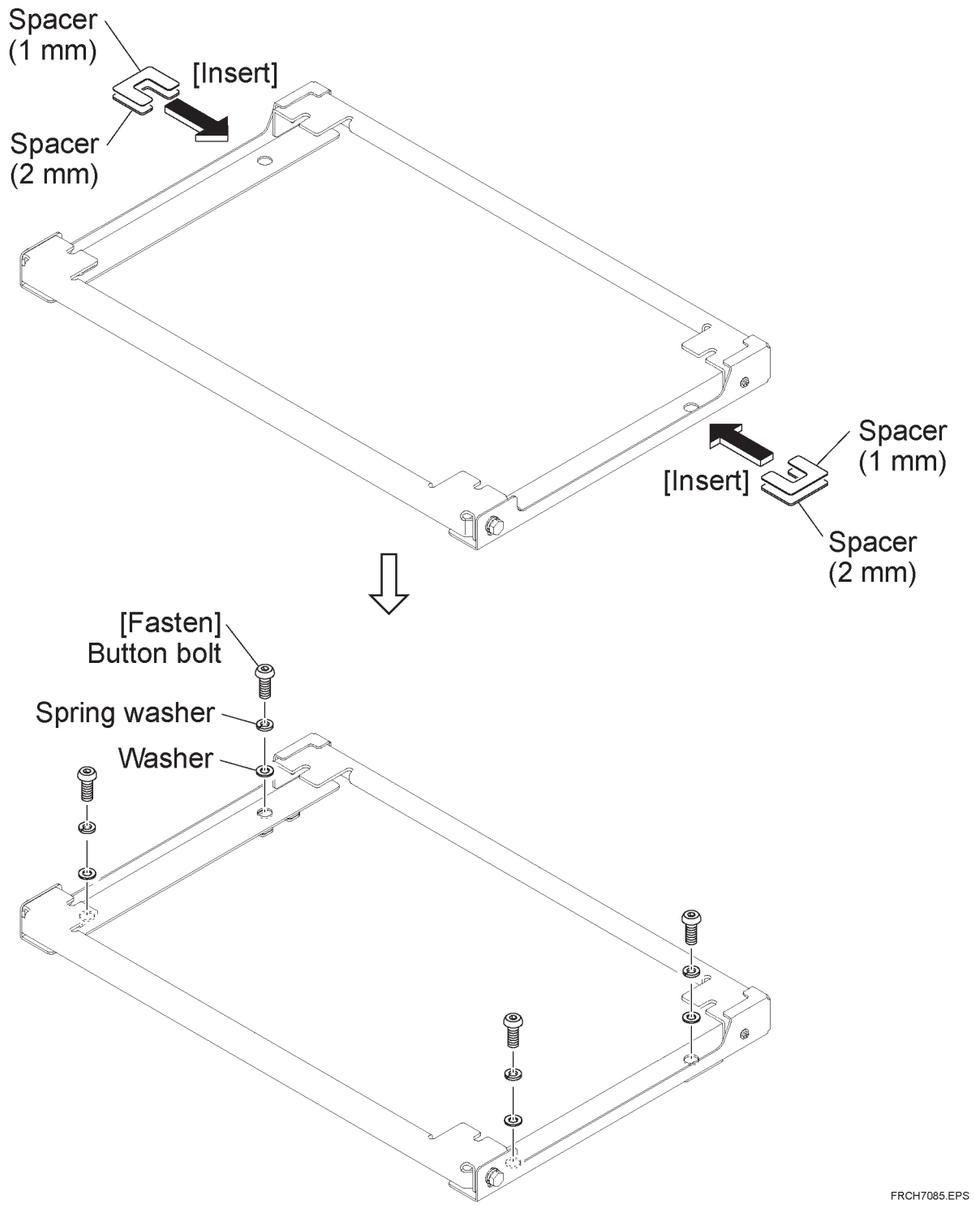
6. **Place the anti-topple retainer in place. Put in spacers with thicknesses of 1 mm and 2 mm into the bolt retaining positions on the rear side, and temporarily retain the retainer with the button bolts.**

◆ ***NOTE*** ◆

Be sure to use the button bolt as a bolt to retain the anti-topple retainer. If a common bolt is used, the bolt head and the adjustable foot might come into contact when the machine is moved, causing deformation on the adjustable foot.



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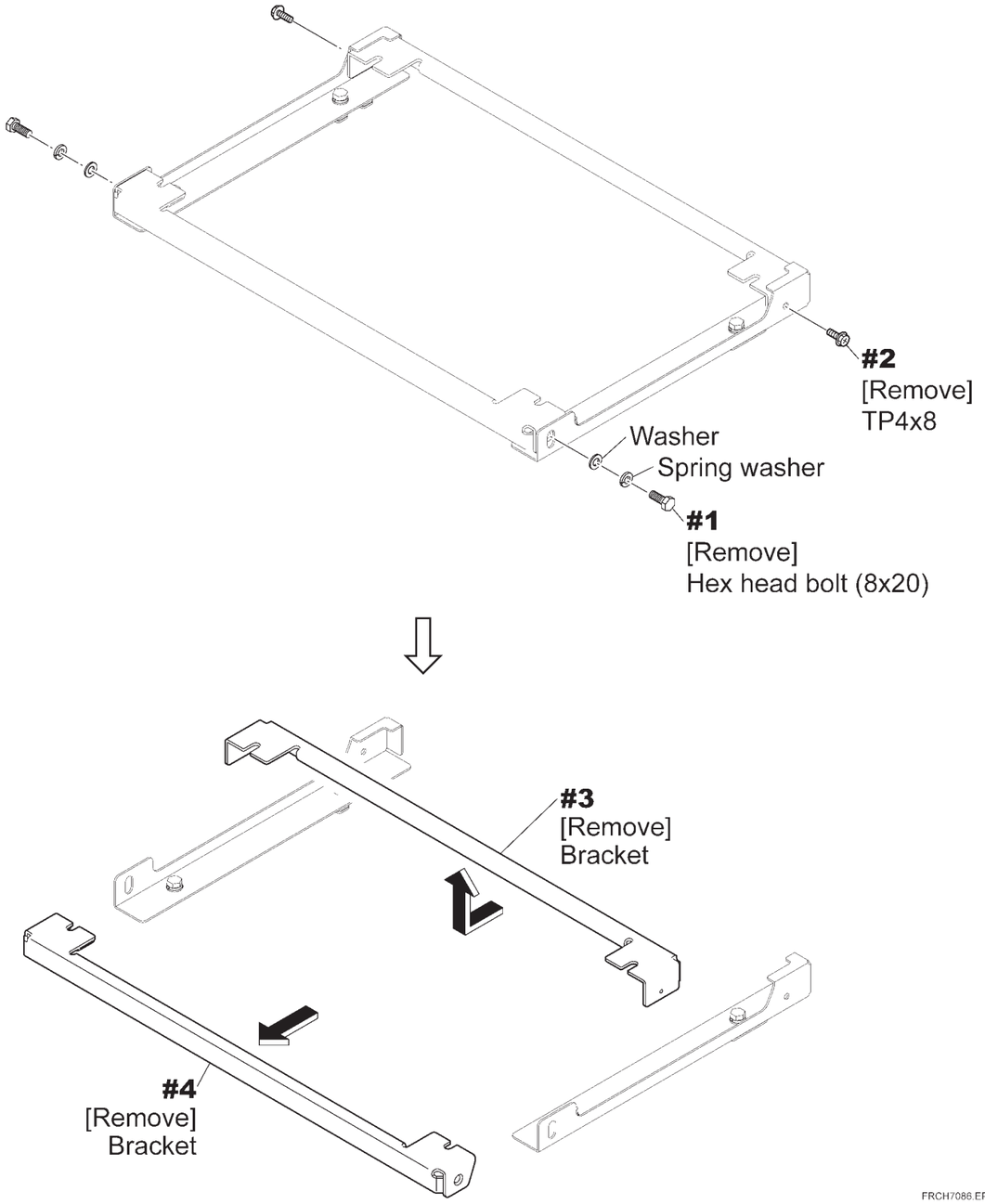
7. **Remove the hex head bolts and the screws to remove the bracket.**



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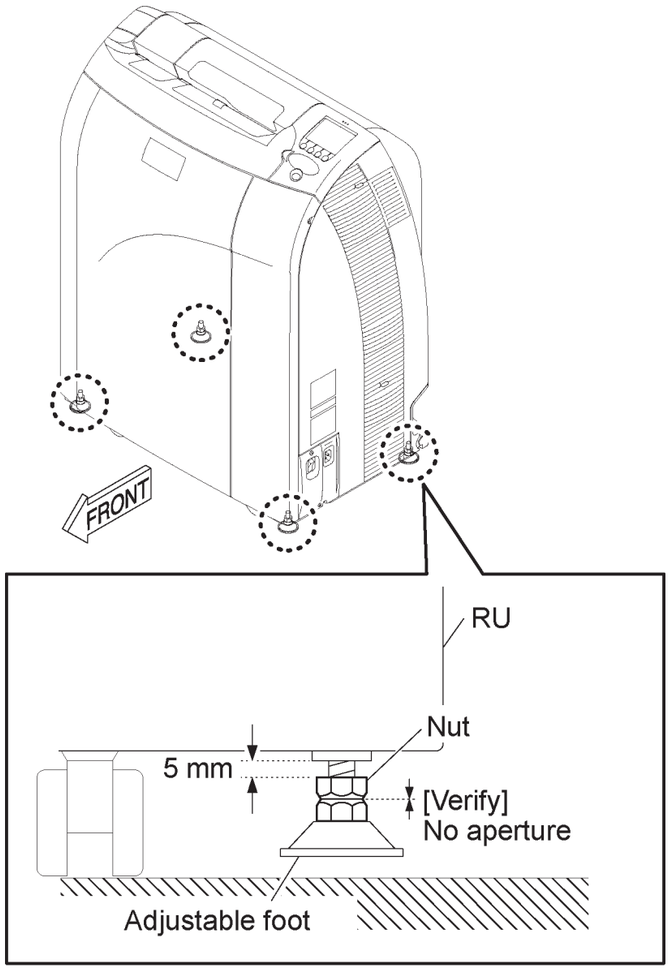
8. **Adjust the height of the adjustable foot so that a distance from the upper surface of the nut of the adjustable foot to the bottom of the machine is approx. 5 mm, in order to mount the bracket on the machine. After the adjustment, check to make sure that there is no aperture between the two nuts of the adjustable foot.**

◆ NOTE ◆

Check to make sure that there is no aperture between the two nuts of the adjustable foot. If there is an aperture between the nuts, the machine retaining bracket cannot be fixed properly.



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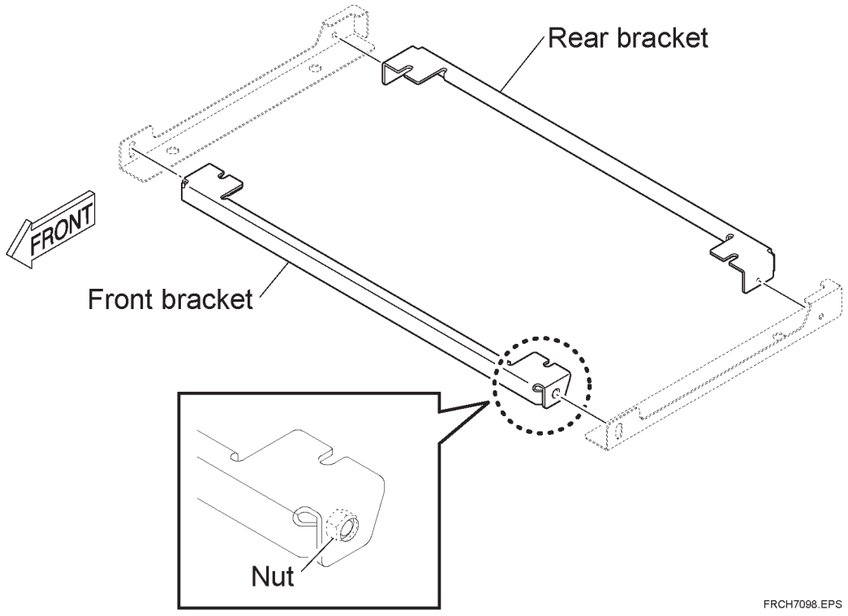
9. **Insert the rear bracket from the rear of the machine between the nut of the adjustable foot and the bottom of the machine. While pushing the bracket against the machine, fasten the nut of the adjustable foot for retaining.**

◆ ***NOTES*** ◆

- *Be sure to fasten the nut while pushing the bracket against the machine. If the bracket is pushed insufficiently, the machine may not be able to be properly retained.*
- *When fastening the nut of the adjustable foot, exercise care not to cause an aperture between the two nuts. The bracket might not be able to be properly retained.*

◇ *REFERENCE* ◇

The front bracket (for use on the front face) and the rear bracket (for use on the rear face) of the anti-topple retainer have different shapes. Although they are of similar shapes when viewed from the surface, you can distinguish them by checking from the back.
The front bracket has nuts welded on the inner side.
The rear bracket has no nut welded on the inner side.



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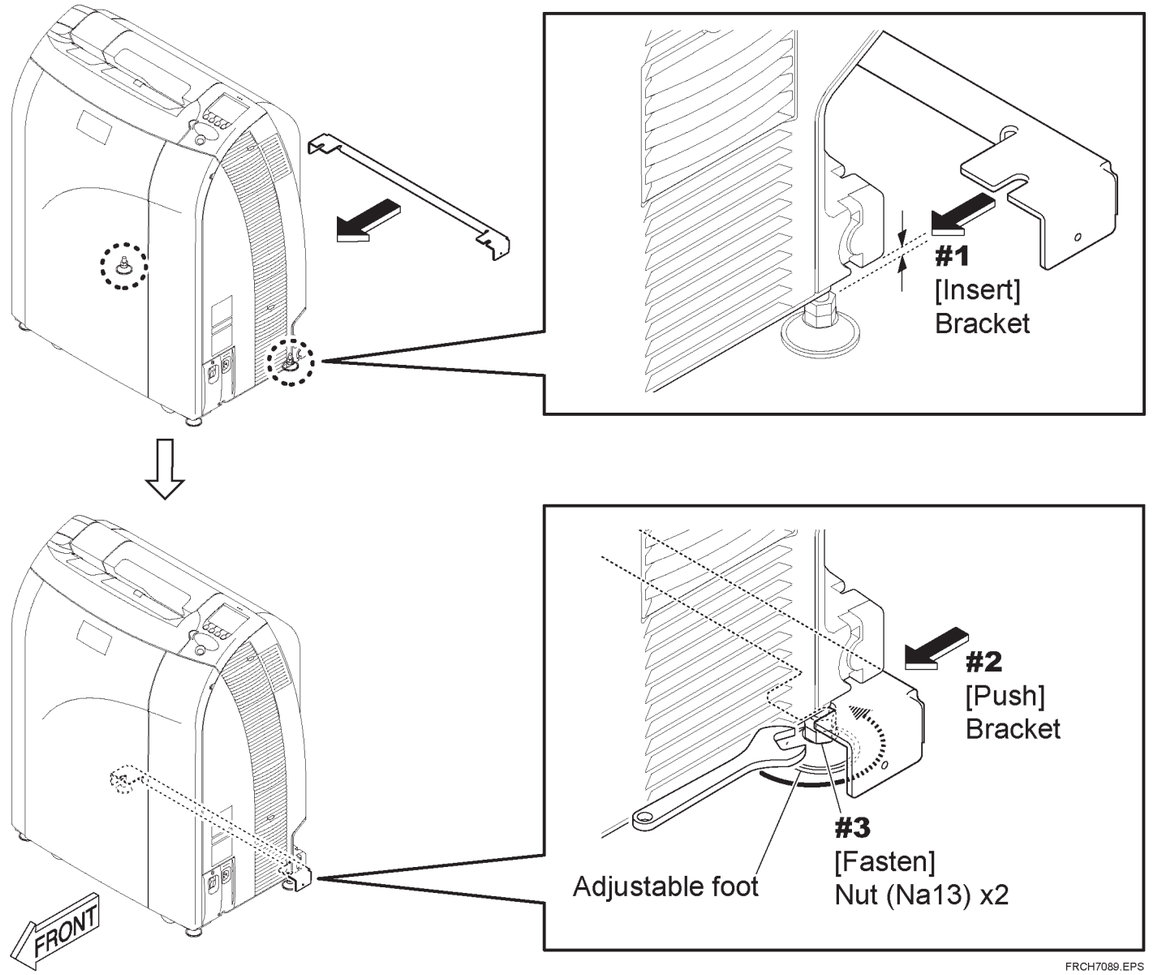

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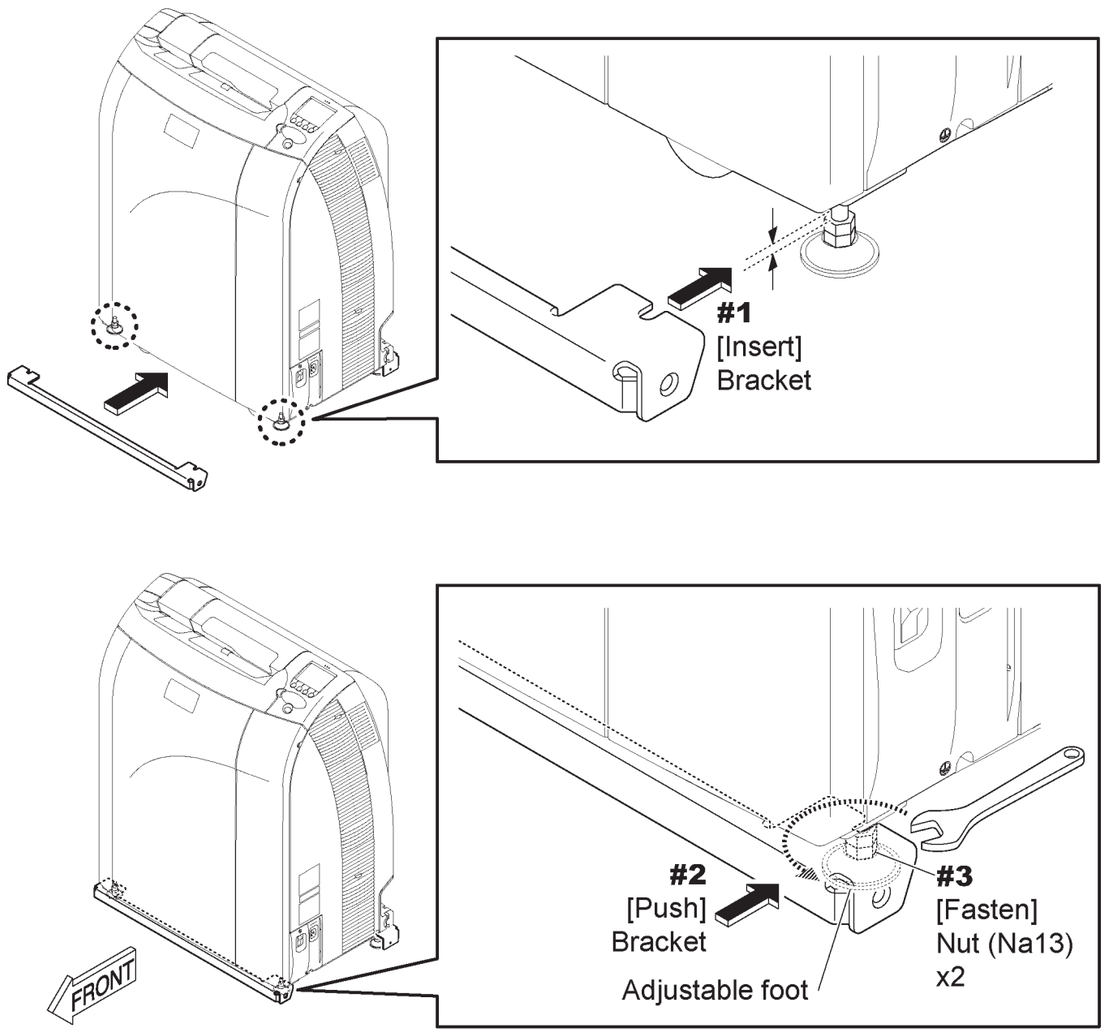
10. **Insert the front bracket from the front of the machine between the nut of the adjustable foot and the bottom of the machine. While pushing the bracket against the machine, fasten the nut of the adjustable foot for retaining.**

◆ *NOTES* ◆

- *Be sure to fasten the nut while pushing the bracket against the machine. If the bracket is pushed insufficiently, the machine may not be able to be properly retained.*
- *When fastening the nut of the adjustable foot, exercise care not to cause an aperture between the two nuts. The bracket might not be able to be properly retained.*



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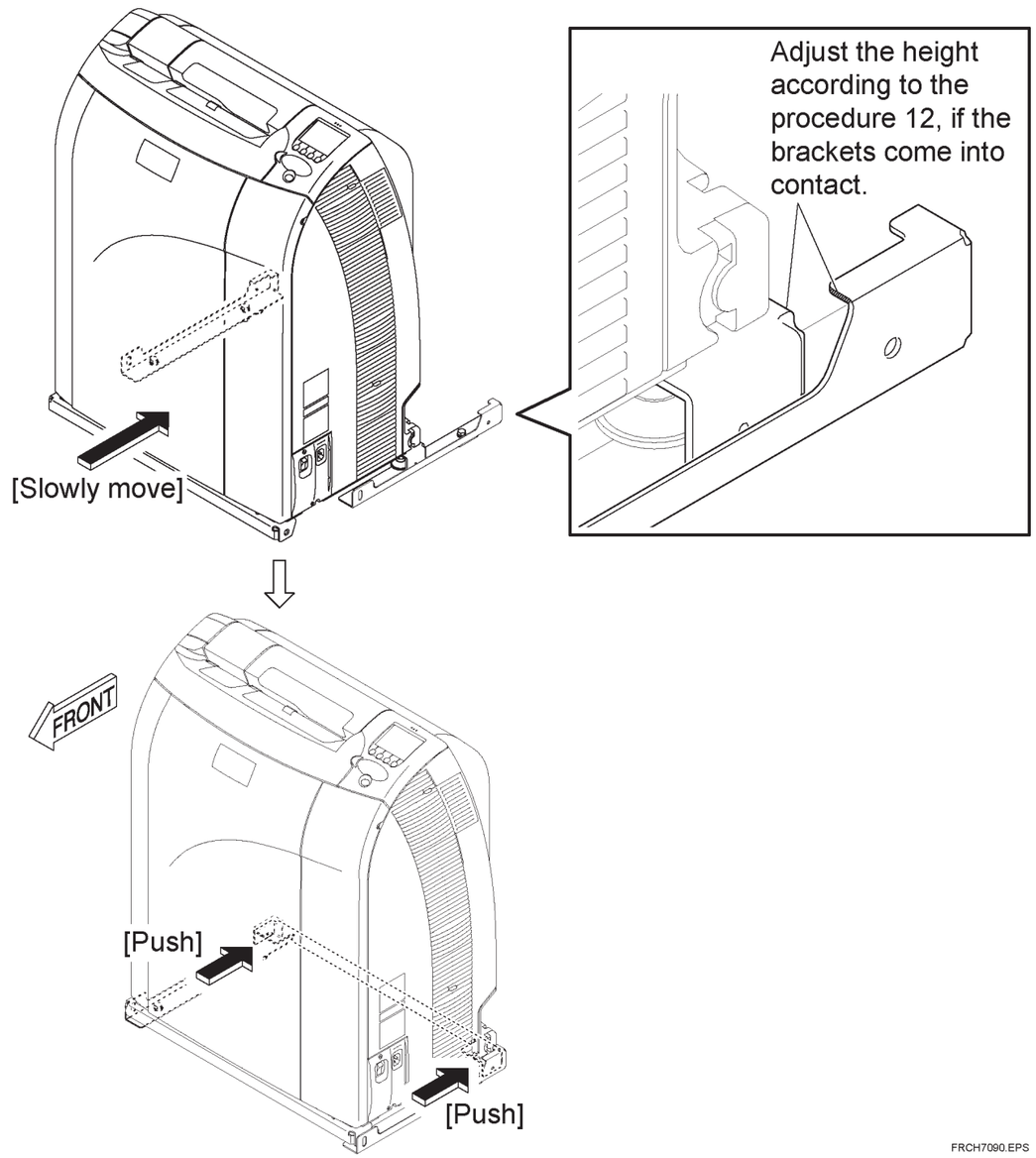
11. **Slowly move the machine toward the bracket retained on the floor, until the bracket on the rear of the machine comes against the bracket retained on the floor.**

◆ *NOTES* ◆

- *If the machine cannot be moved as the bracket retained on the bracket comes into contact with the bracket mounted on the machine when the machine is to be moved, height adjustment is necessary with additional spacers. Take the procedure 12.*
- *If the machine can move until the bracket on the rear of the machine comes against the bracket retained on the floor, the procedure 12 need not be taken. Proceed to the procedure 13.*



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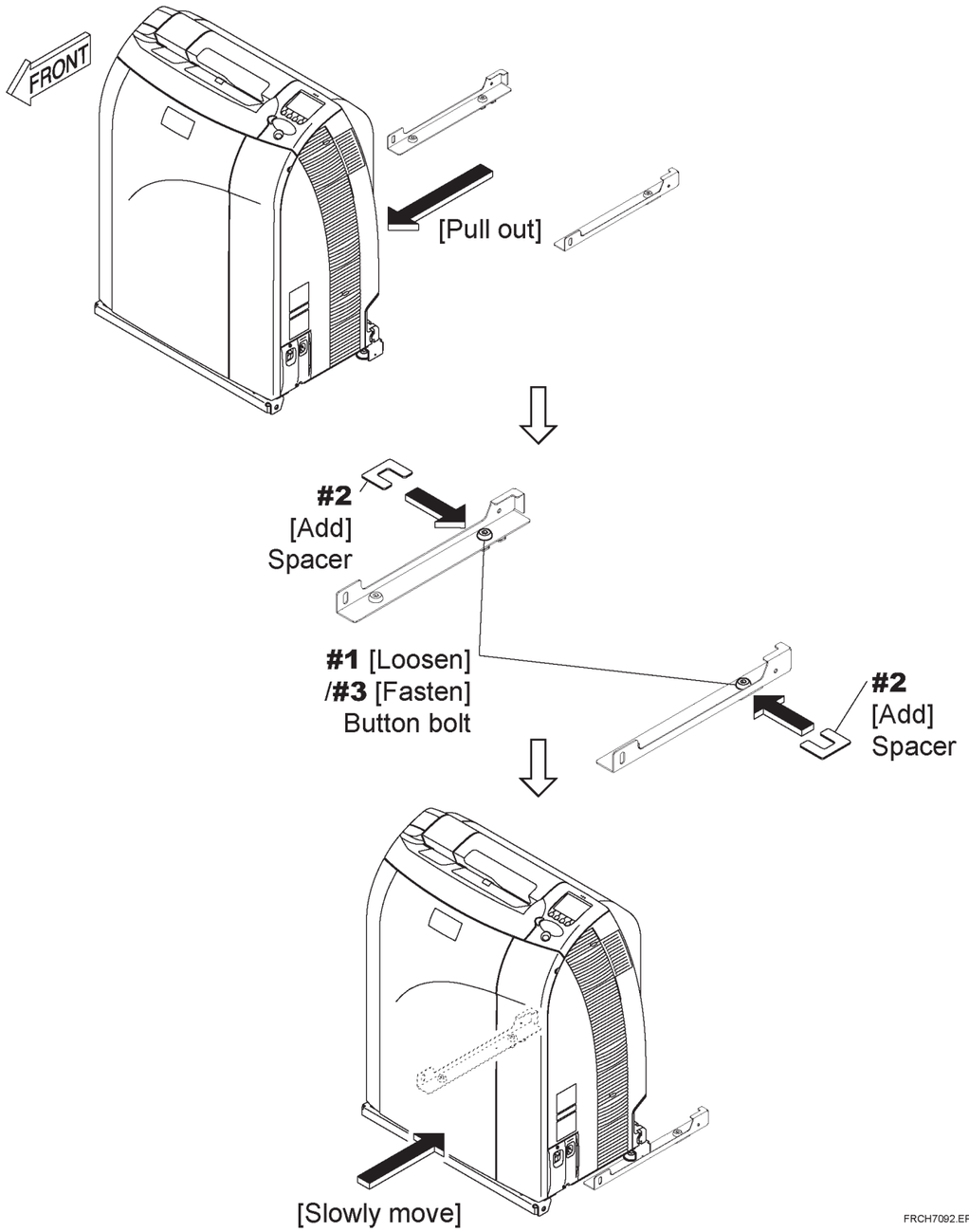
12. **Once pull out the machine. Adjust the height of the bracket retained on the floor by adding a spacer. Then move the machine again.**

◆ ***NOTE*** ◆

Check the portion where the bracket retained on the floor is in contact wit the bracket on the rear of the machine. Add a spacer of 1mm or 2mm thickness accordingly.



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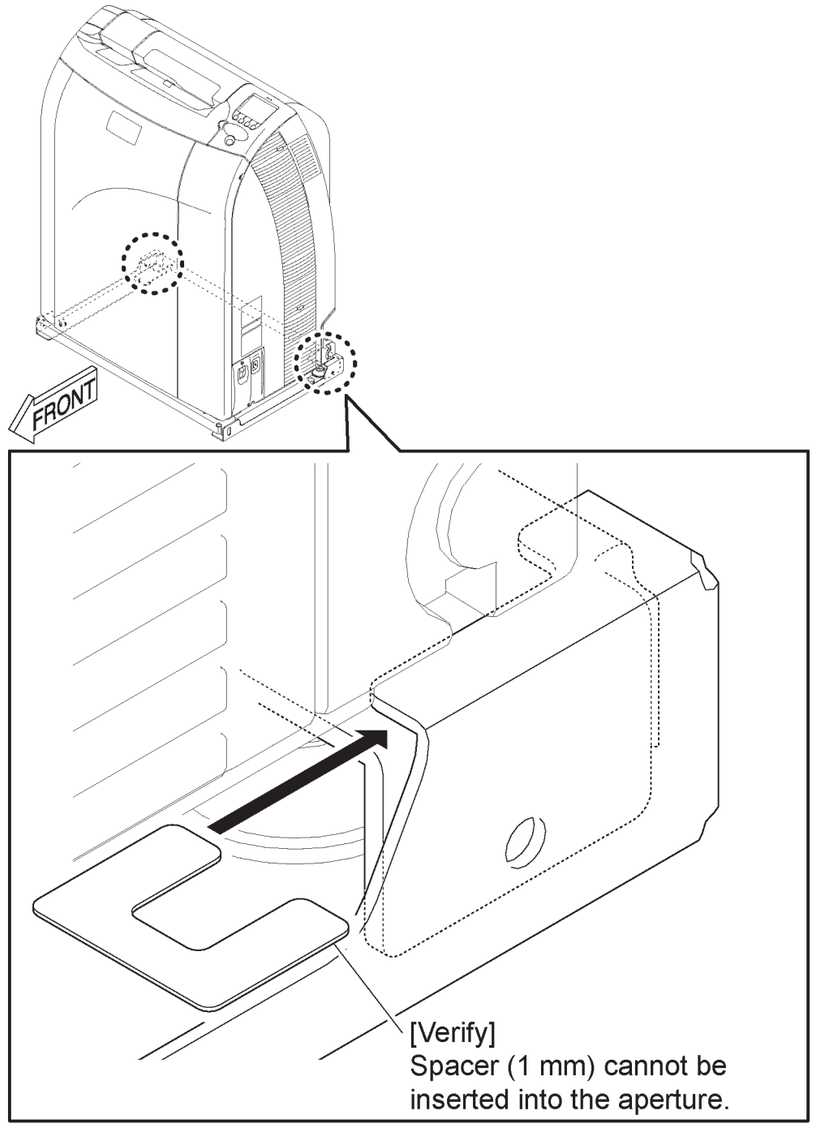
13. **Check to make sure that the spacer of 1mm thickness cannot be inserted into an aperture between the bracket retained on the floor and the bracket mounted on the machine.**

◆ ***NOTES*** ◆

- *If the spacer of 1mm thickness can be inserted into an aperture between the bracket retained on the floor and the bracket mounted on the machine, the spacer should be removed and the height need be adjusted again. Take the procedure 14.*
- *If the spacer of 1mm thickness cannot be inserted into an aperture between the bracket retained on the floor and the bracket mounted on the machine, the procedure 14 need not be taken. Proceed to the procedure 15.*



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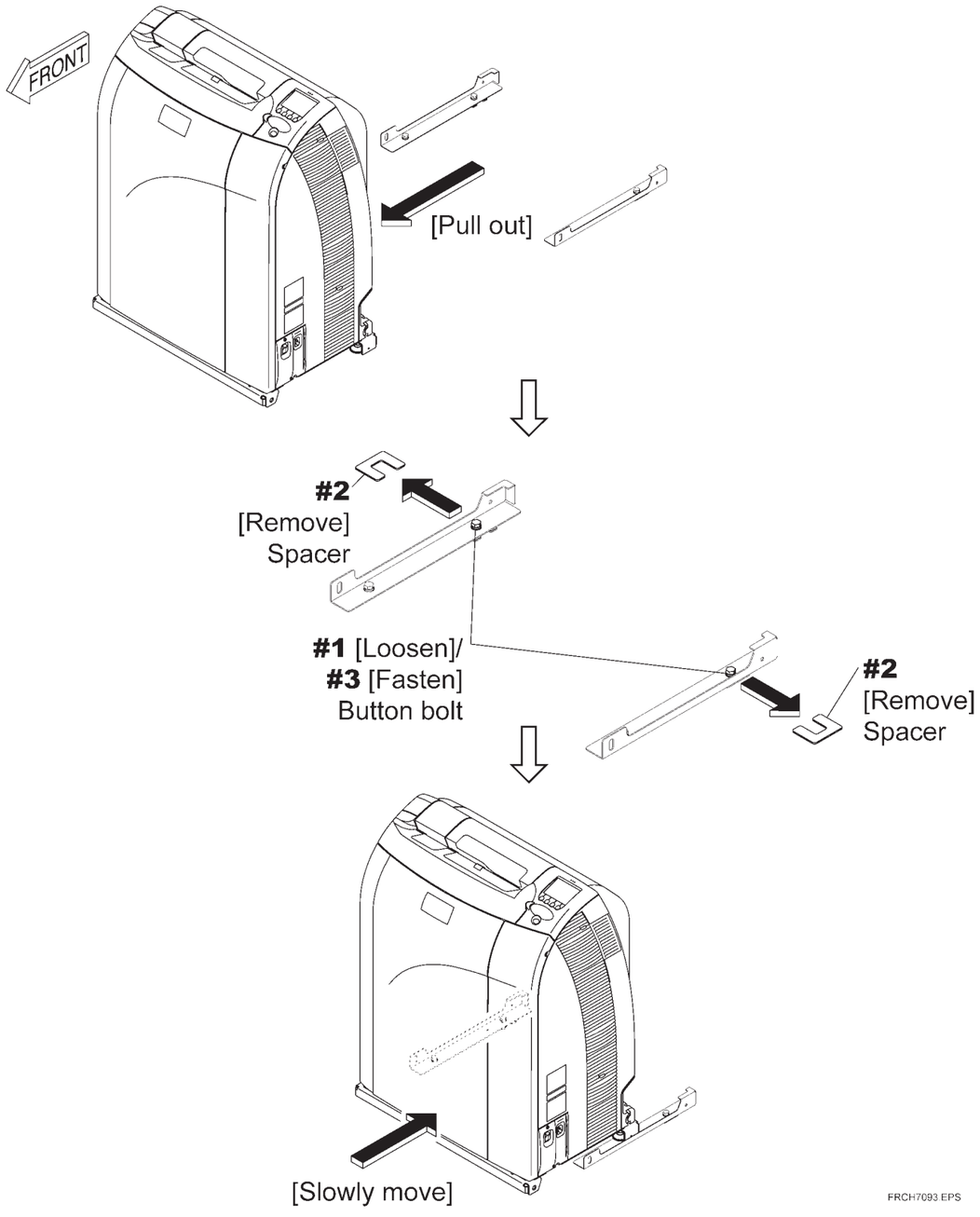
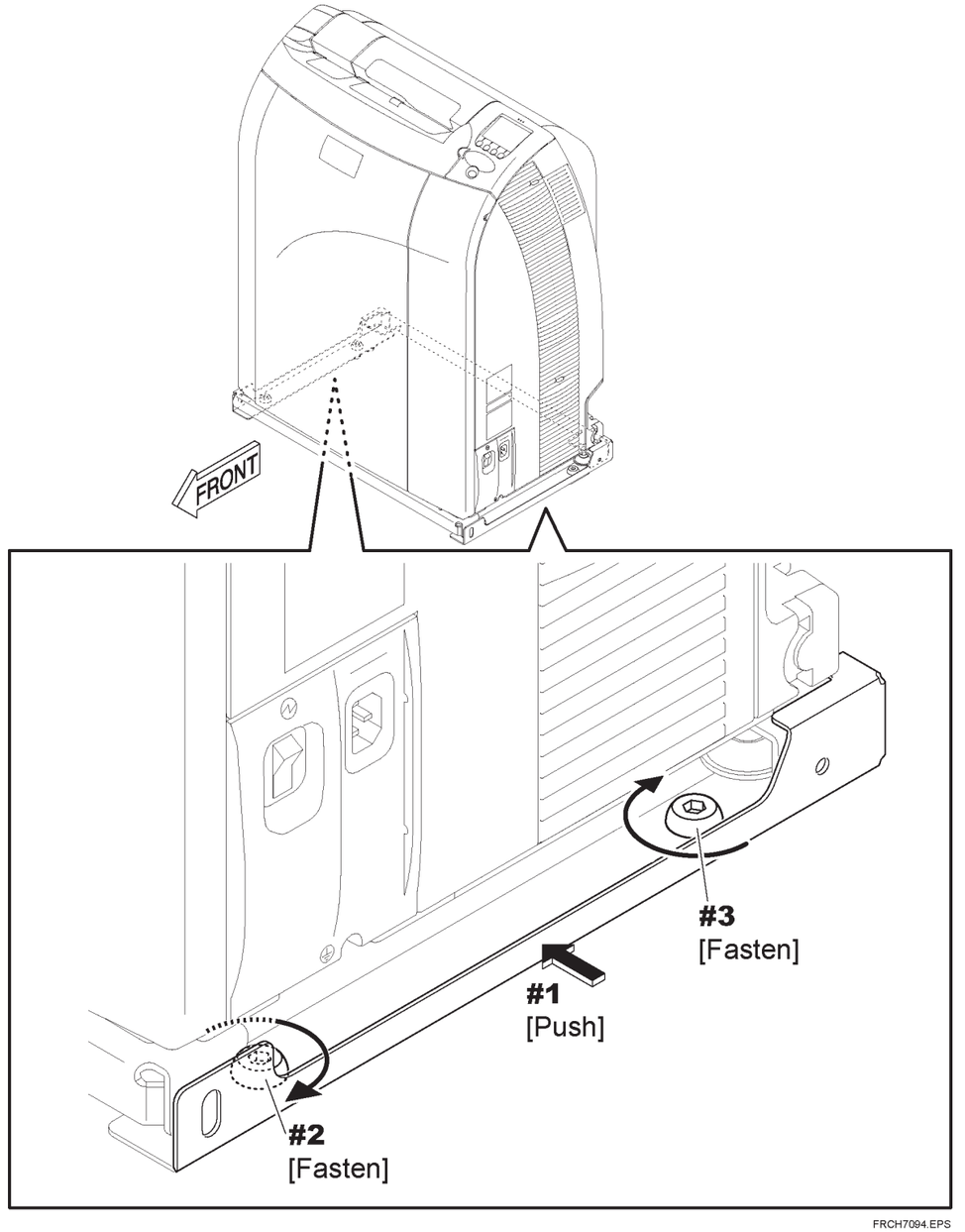
14. **Once pull out the machine. Loosen the button bolt, remove the spacer, and fasten the button bolt to retain the bracket. After the bracket is retained, move the machine, and again check as instructed in the procedure 13.**

◆ NOTE ◆

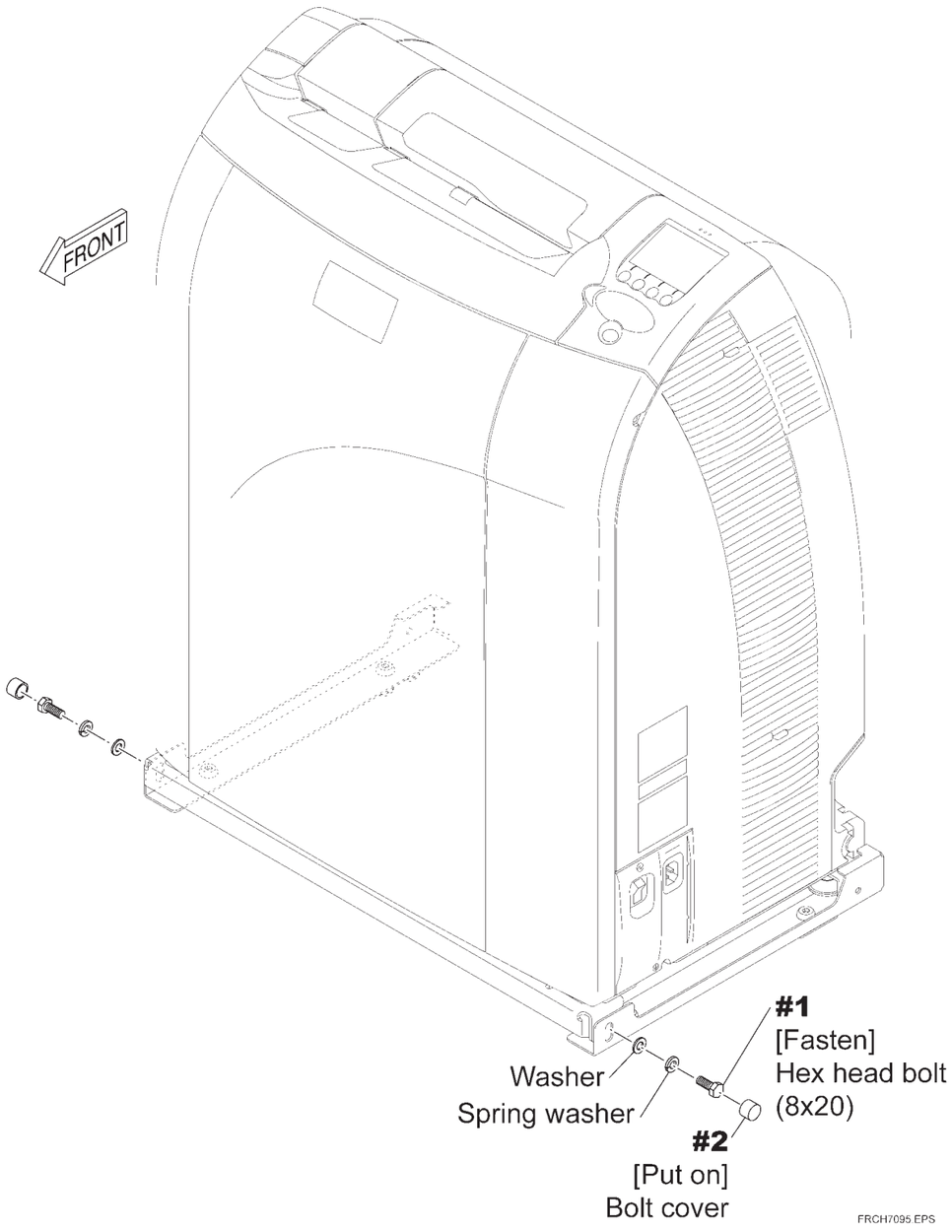
When the spacer is removed, always take the procedure 13 to check the aperture.



15. **While pushing the bracket retained on the floor against the machine, additionally fasten the button bolt to retain the bracket mounted on the floor. When the bracket retained on the floor does not move, once loosen the button bolt, push the bracket against the machine, and fasten the button nut to retain the bracket on the floor.**

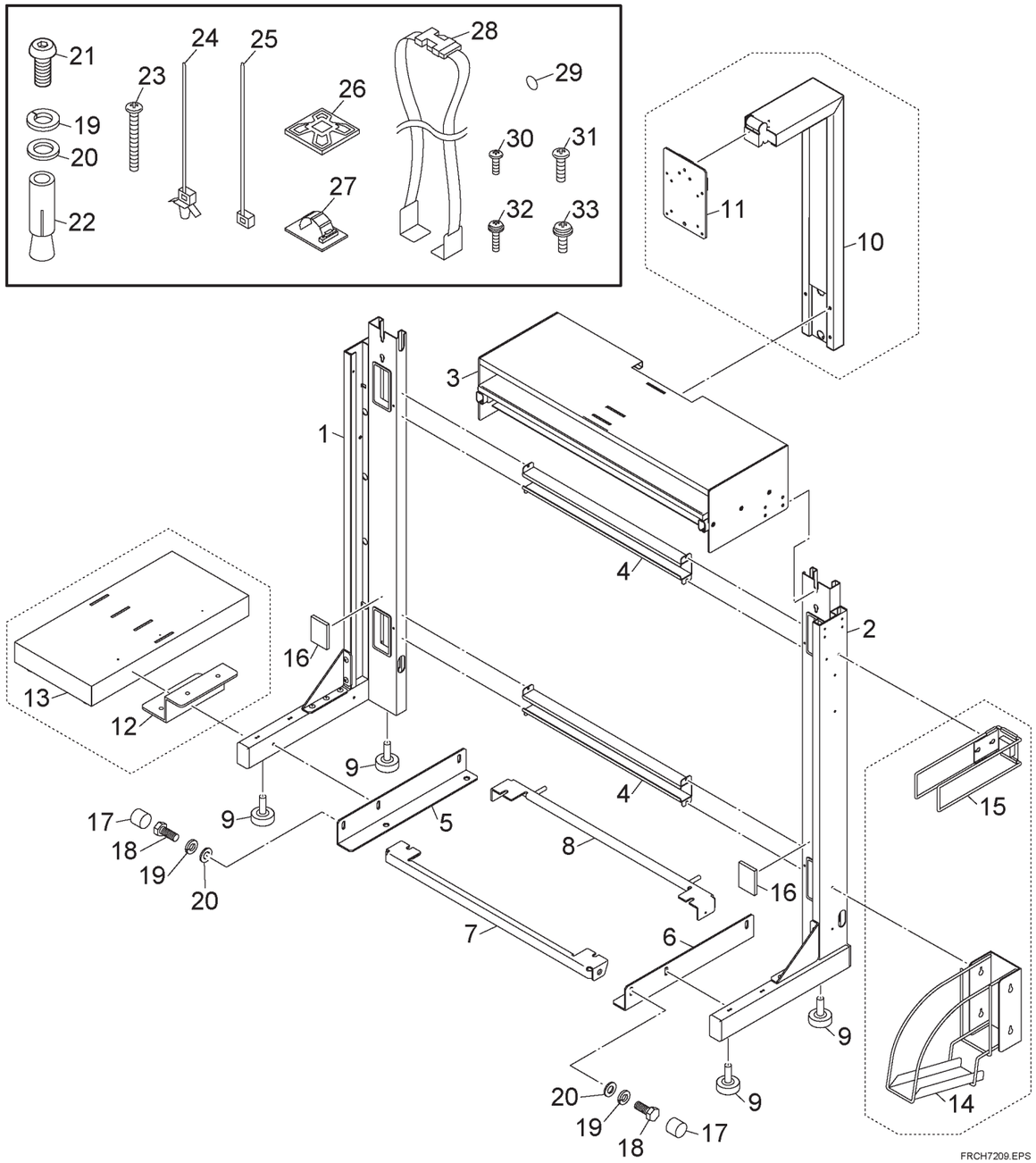


16. **Put on the bolt on the front of the machine, retain the bracket, and put on the bolt cover.**



Appendix 3 Assembling and Securing the Supporter

1. Components of the Supporter



■ Supporter Body

No.	Name	Qty.	Remarks
1	Stanchion (left-hand side)	1	
2	Stanchion (right-hand side)	1	
3	Shelf	1	
4	Connecting strut	2	
5	Bracket (left-hand side)	1	
6	Bracket (right-hand side)	1	
7	Bracket (front)	1	
8	Bracket (rear)	1	
9	Adjustable foot	4	

■ Arm Options

No.	Name	Qty.	Remarks
10	Arm	1	
11	Bracket	1	

■ Base Options

No.	Name	Qty.	Remarks
12	Connecting bracket	1	
13	Base	1	

■ Cassette Rack Options

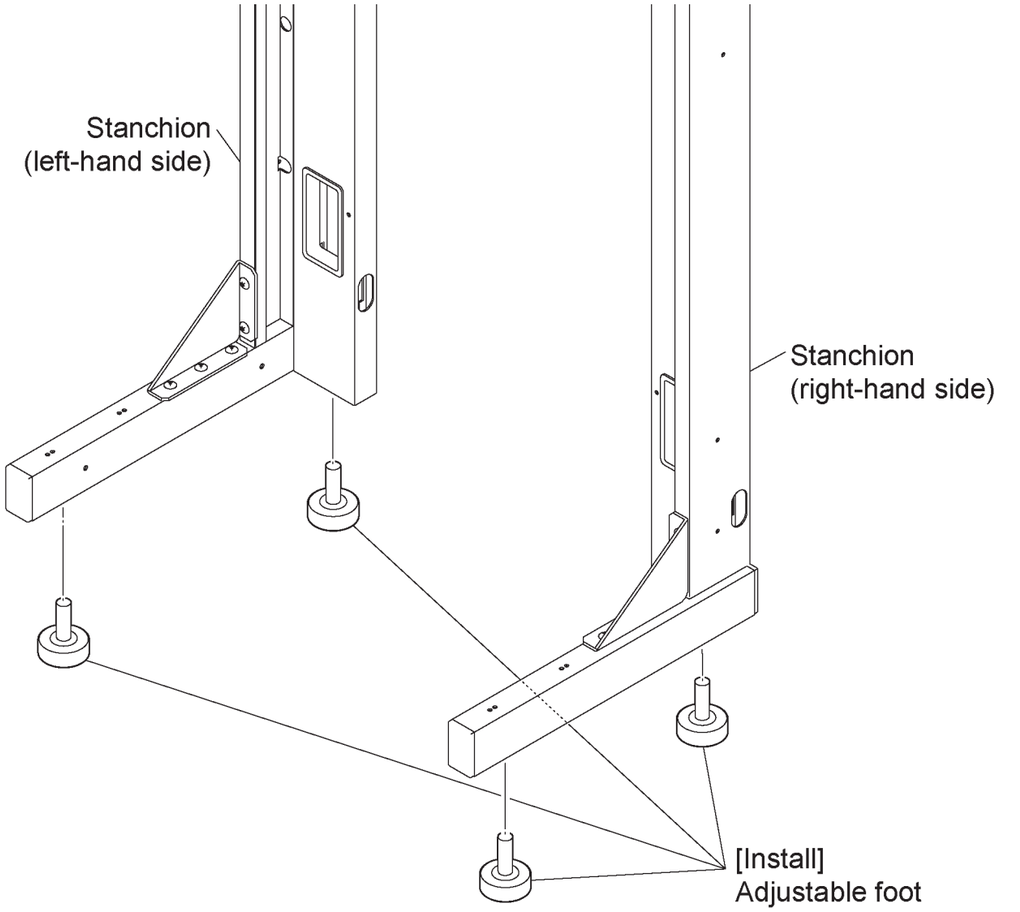
No.	Name	Qty.	Remarks
14	Cassette rack	1	
15	Cassette rack (for long cassette)	1	

■ Optional Items

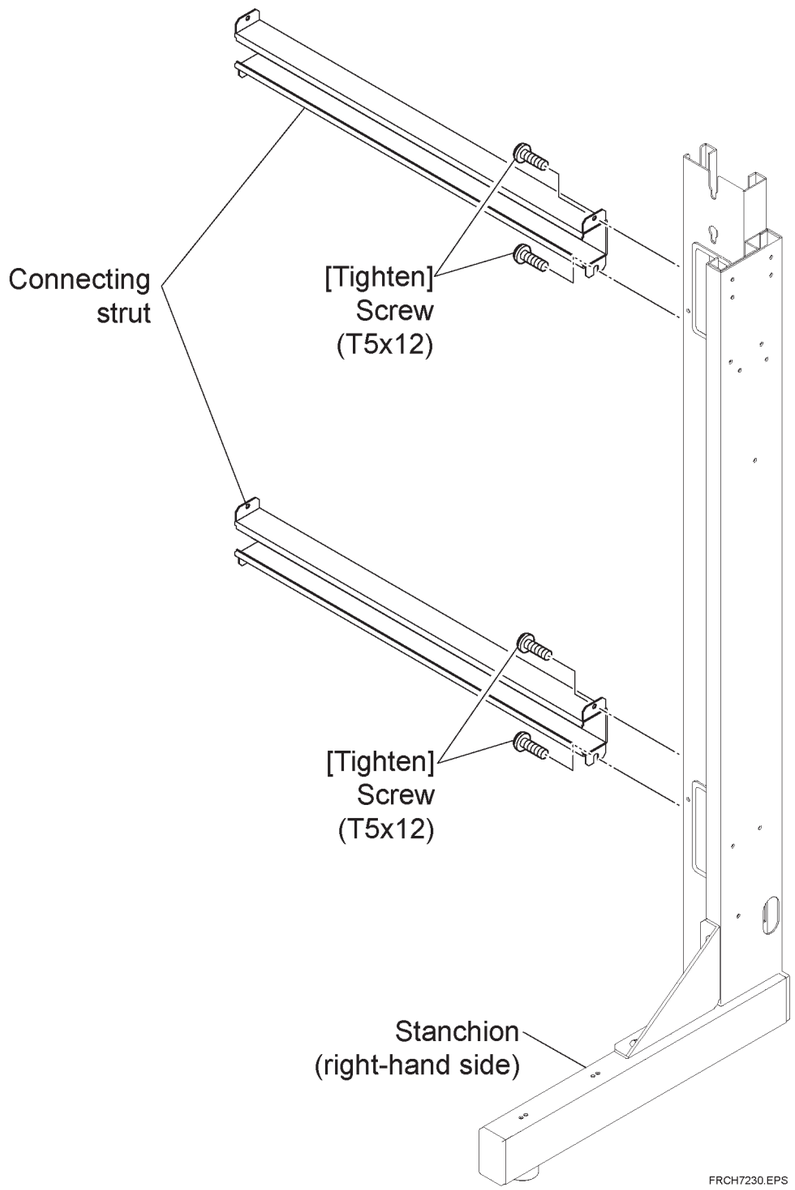
No.	Name	Qty.	Remarks
16	Shock absorber	4	
17	Cap	2	
18	Hex head bolt (8x20)	2	
19	Spring washer (SW8)	2	For supporter body
		4	For retaining the anchor
20	Plain washer (W8)	2	For supporter body
		4	For retaining the anchor
21	Hex socket head button bolt (8x20)	4	For retaining the anchor
22	Anchor nut (Na8)	4	For retaining the anchor
23	Screw (TP4x40)	4	For fixing to the wall
24	Stem band	4	
25	Insulock	11	
26	Insulock plate	11	
27	NK clamp	10	
28	Retaining band	1	
29	Seal	24	
30	Screw (T5x12)	18	For supporter body
		4	For arm
		4	For base
		2	For cassette rack
		2	For cassette rack (for long cassette)
31	Screw (T6x15)	4	For supporter body
32	W sems screw (B4x12)	4	For arm
33	W sems screw (B5x8)	3	For arm

2. Assembling the Supporter

1. **Attach the adjustable feet to the right- and left-hand stanchions.**



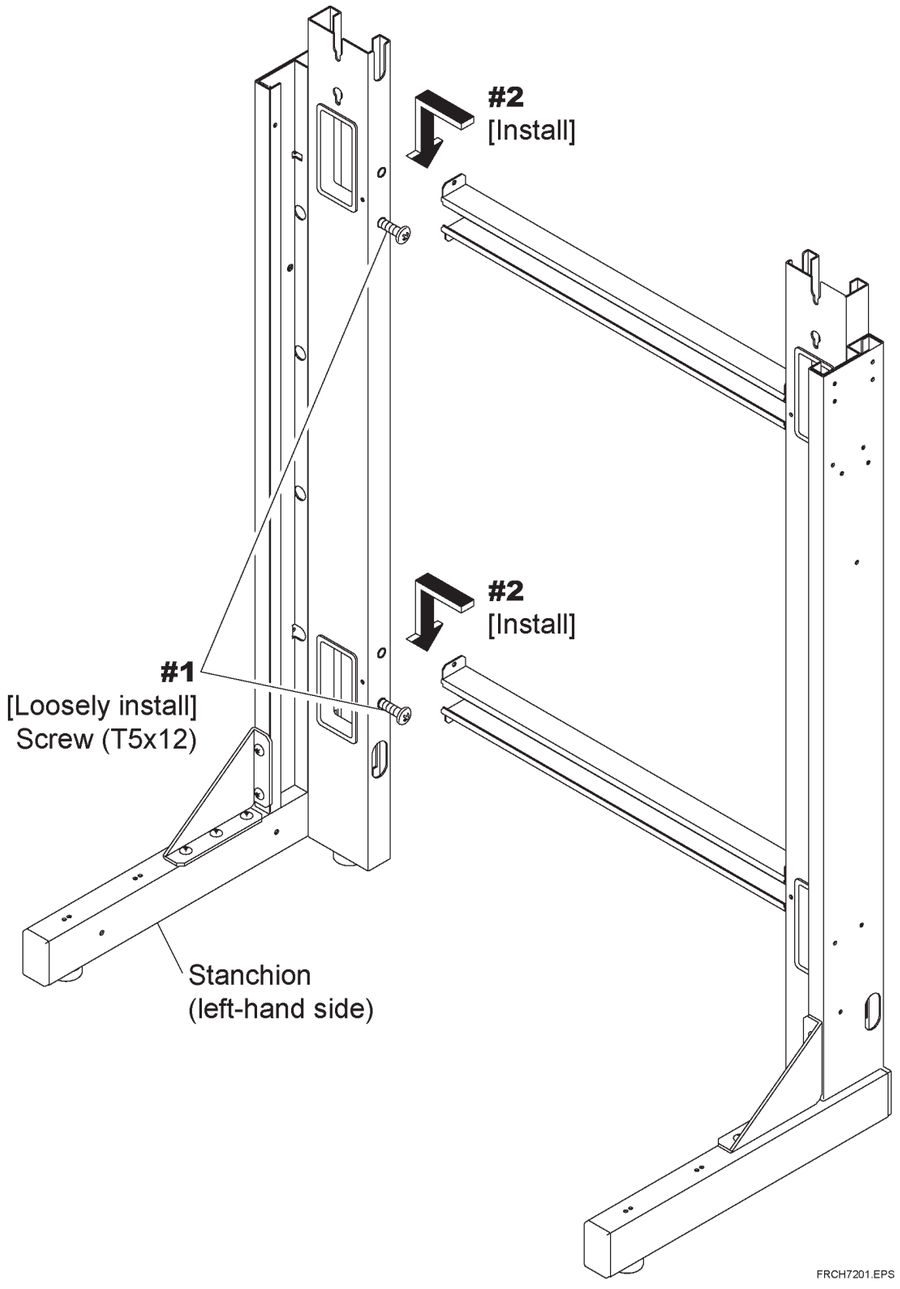
2. **Mount the connecting struts on one of the stanchions.**



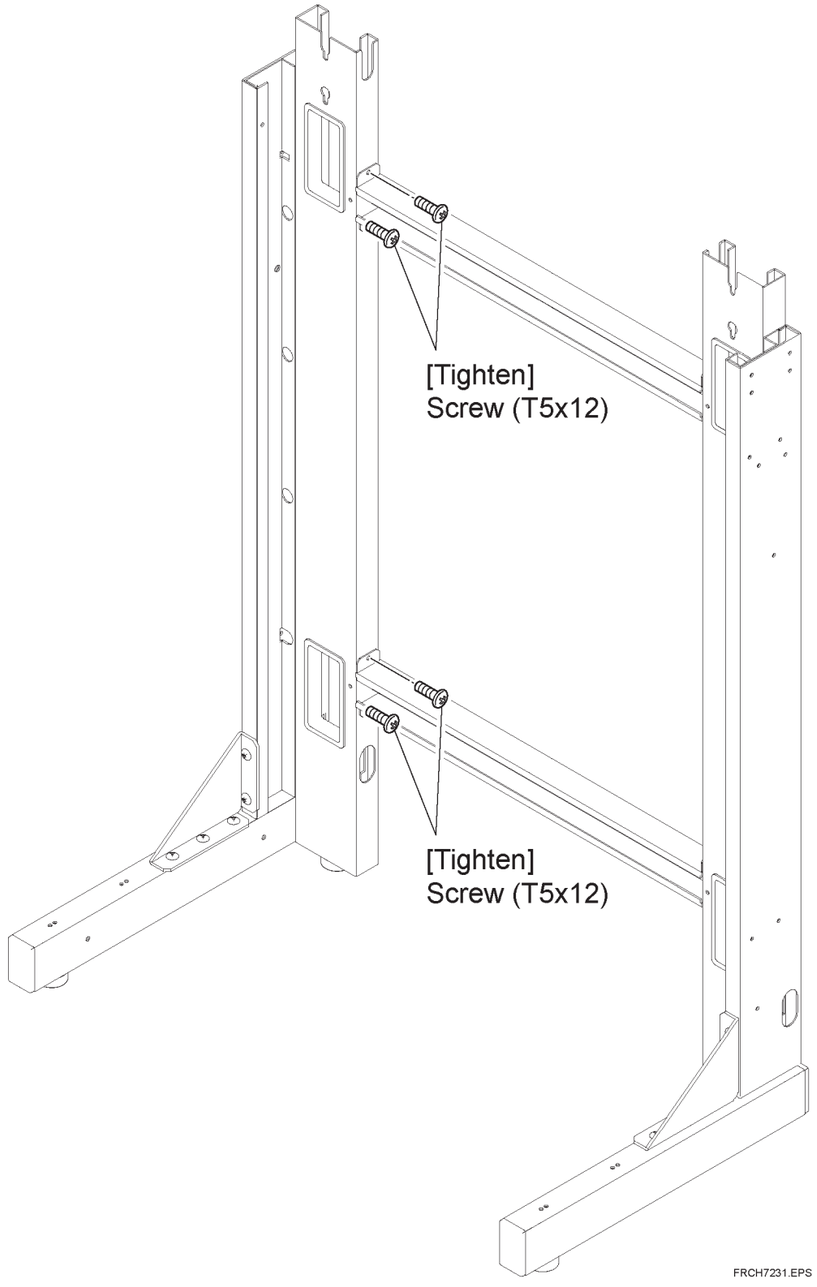
3. **Mount the struts assembled in the step 2 on the other stanchion.**

◆ ***NOTE*** ◆

Be sure to mount the struts with the two screws temporarily tightened.



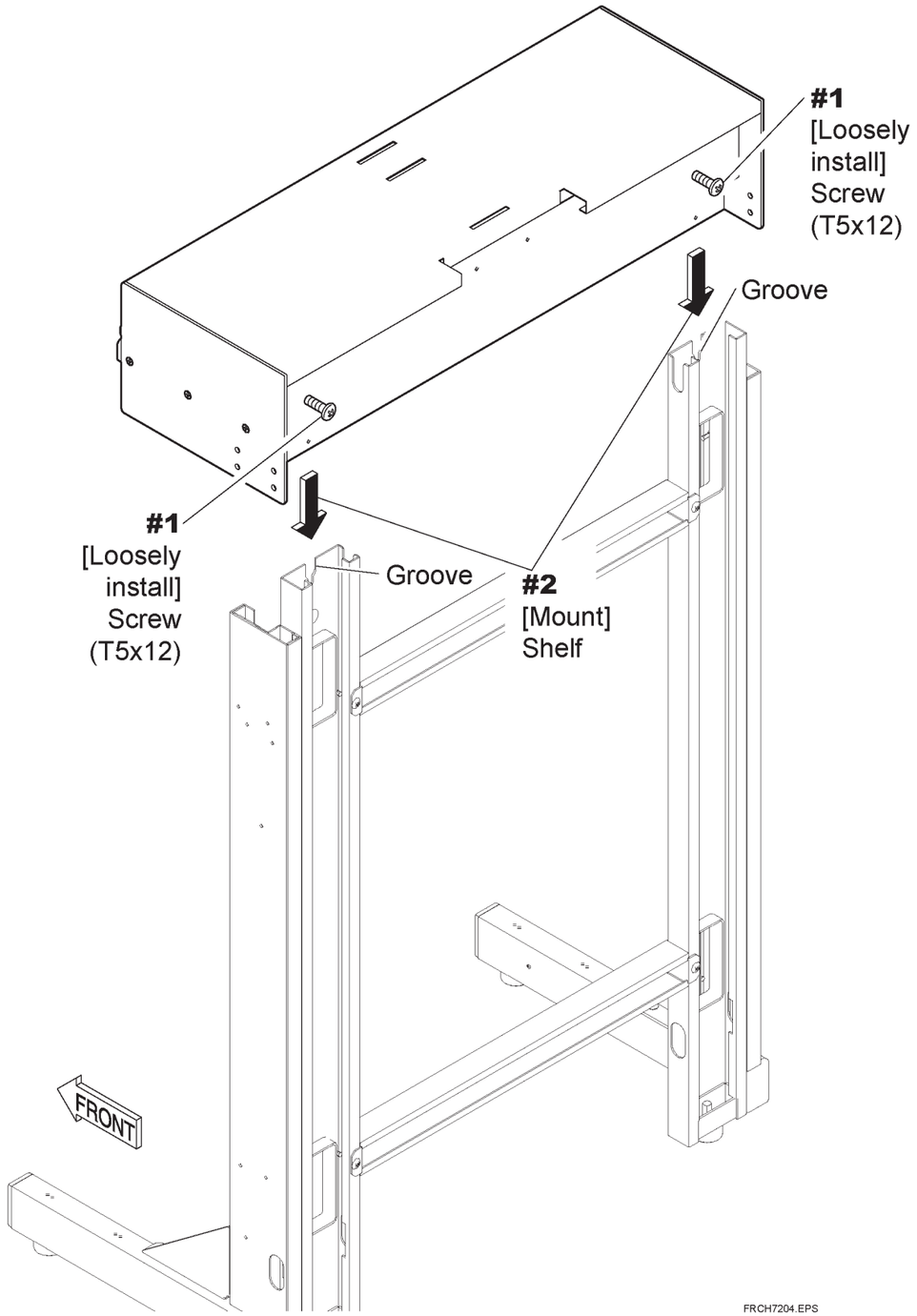
4. **Screw the struts.**



5. **Mount the shelf.**

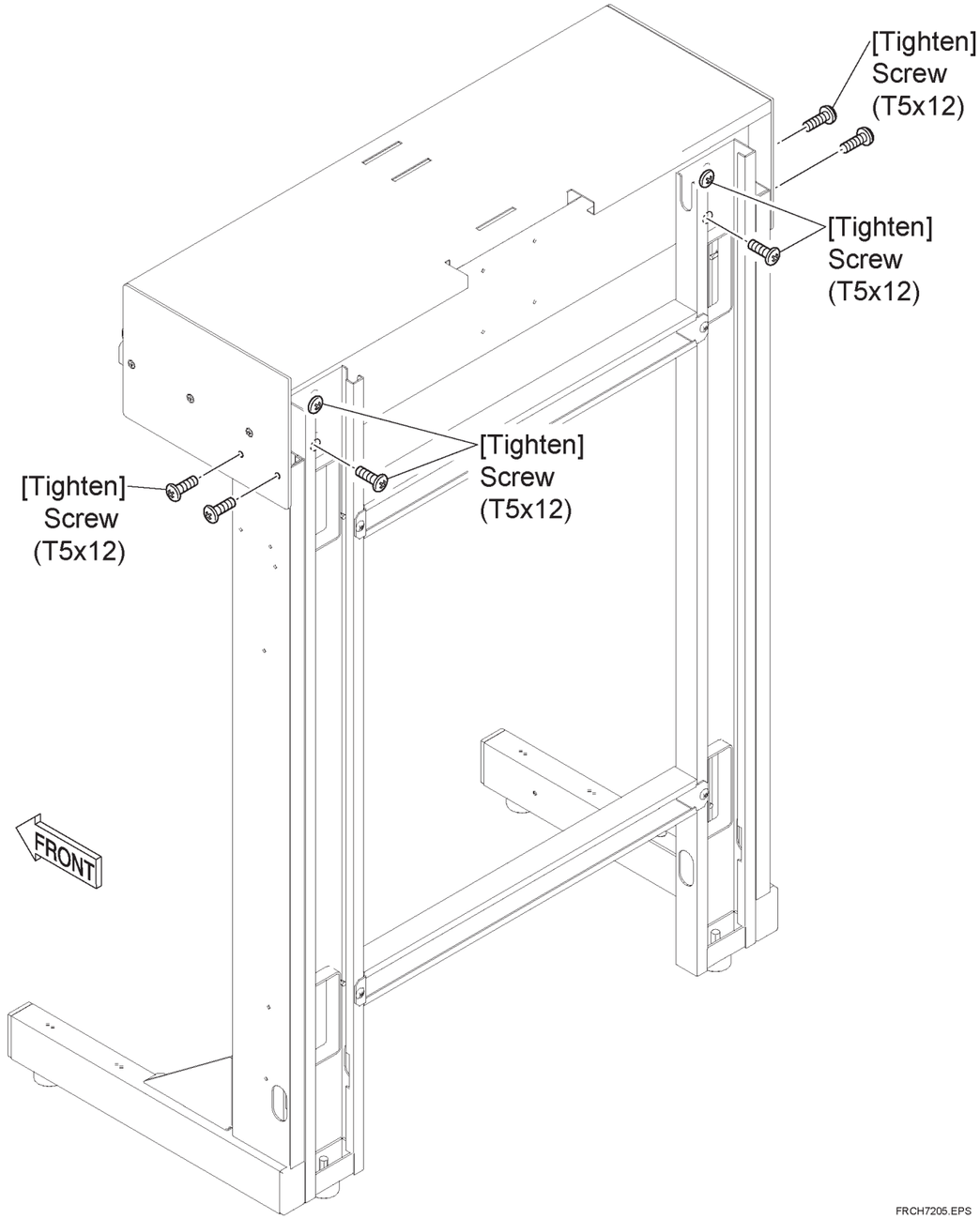
◆ ***NOTE*** ◆

Be sure to mount the shelf with the two screws loosely installed.



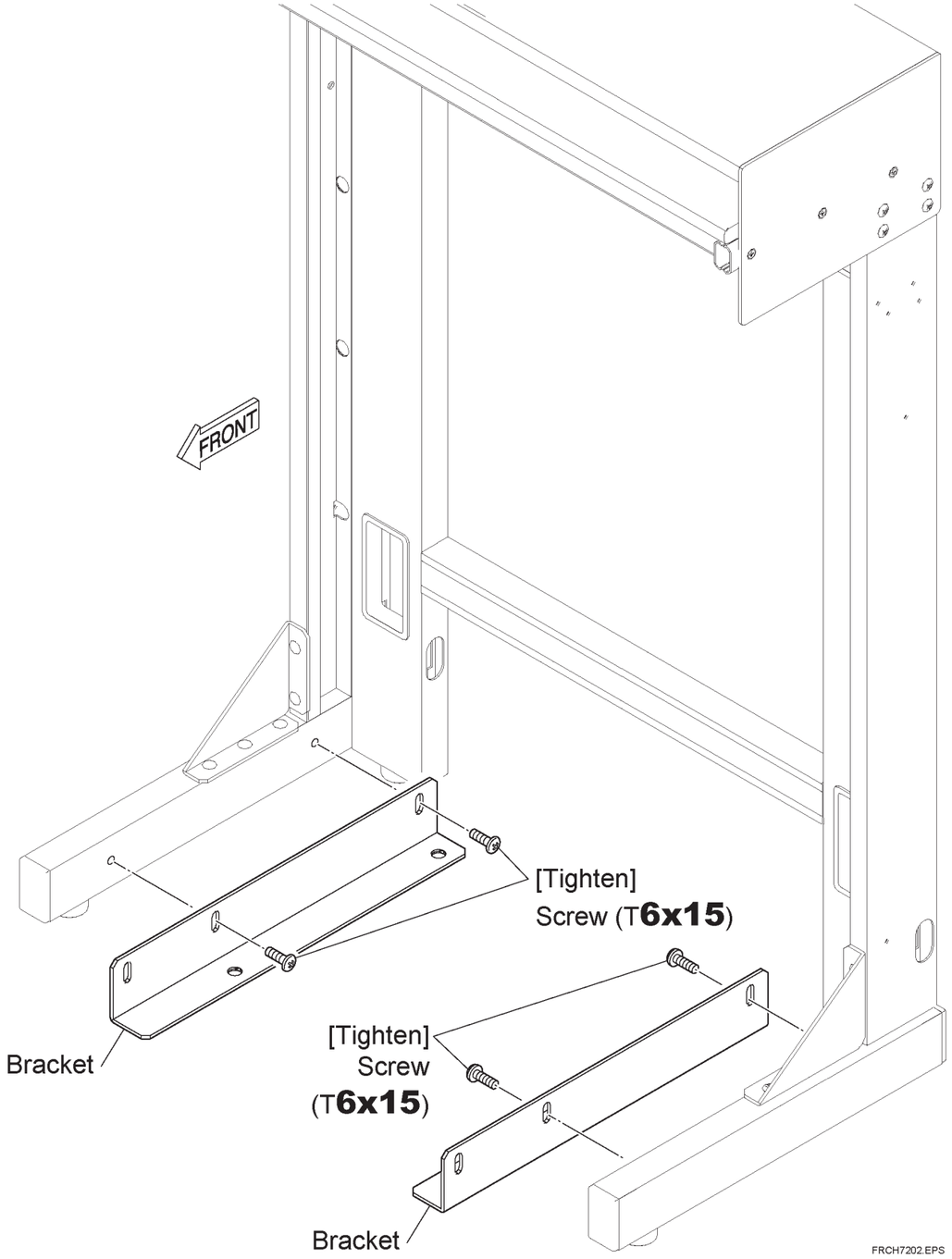
FRCH7204.EPS

6. **Screw down the shelf.**

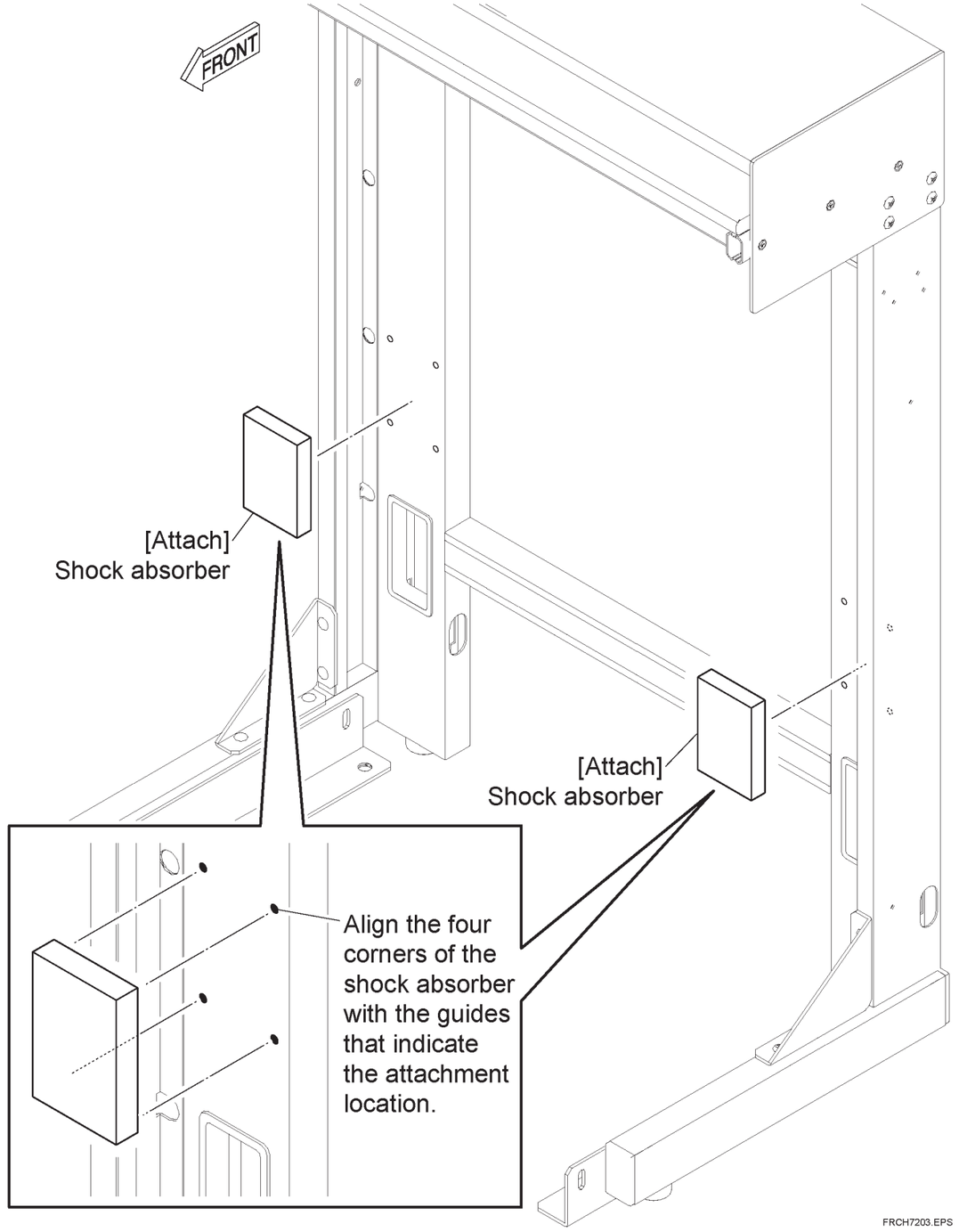


FRCH7205.EPS

7. **Mount the brackets.**



8. **Mount the shock absorbers.**



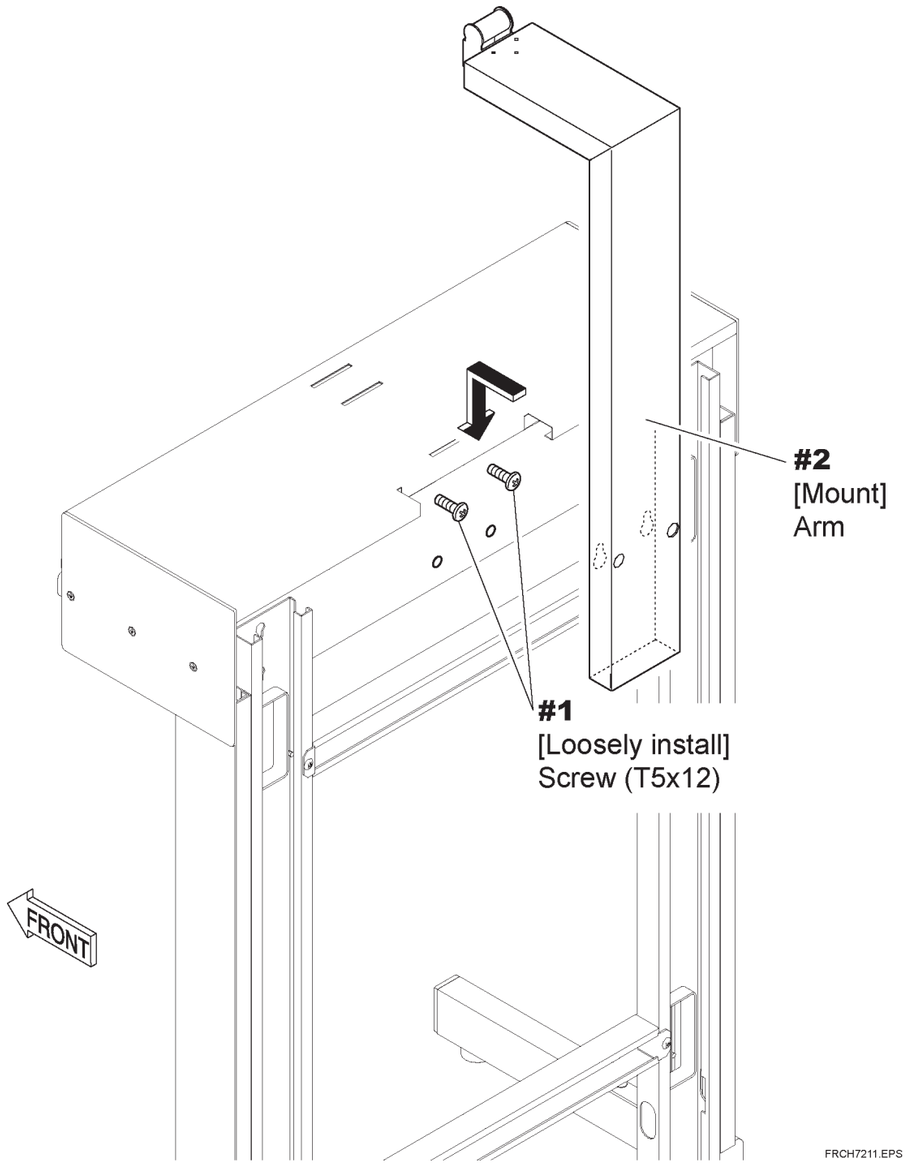
3. Attachment of the Options

3.1 Mounting the Arm

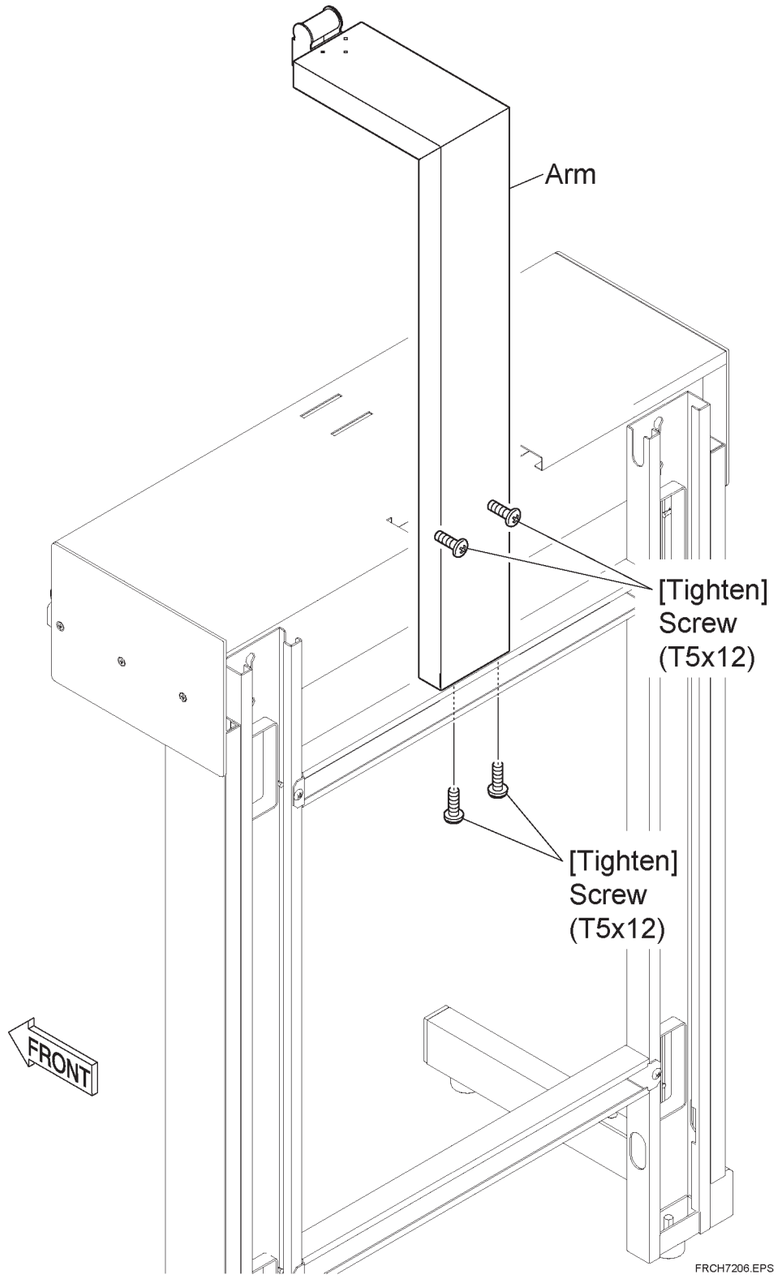
1. **Mount the arm.**

◆ ***NOTE*** ◆

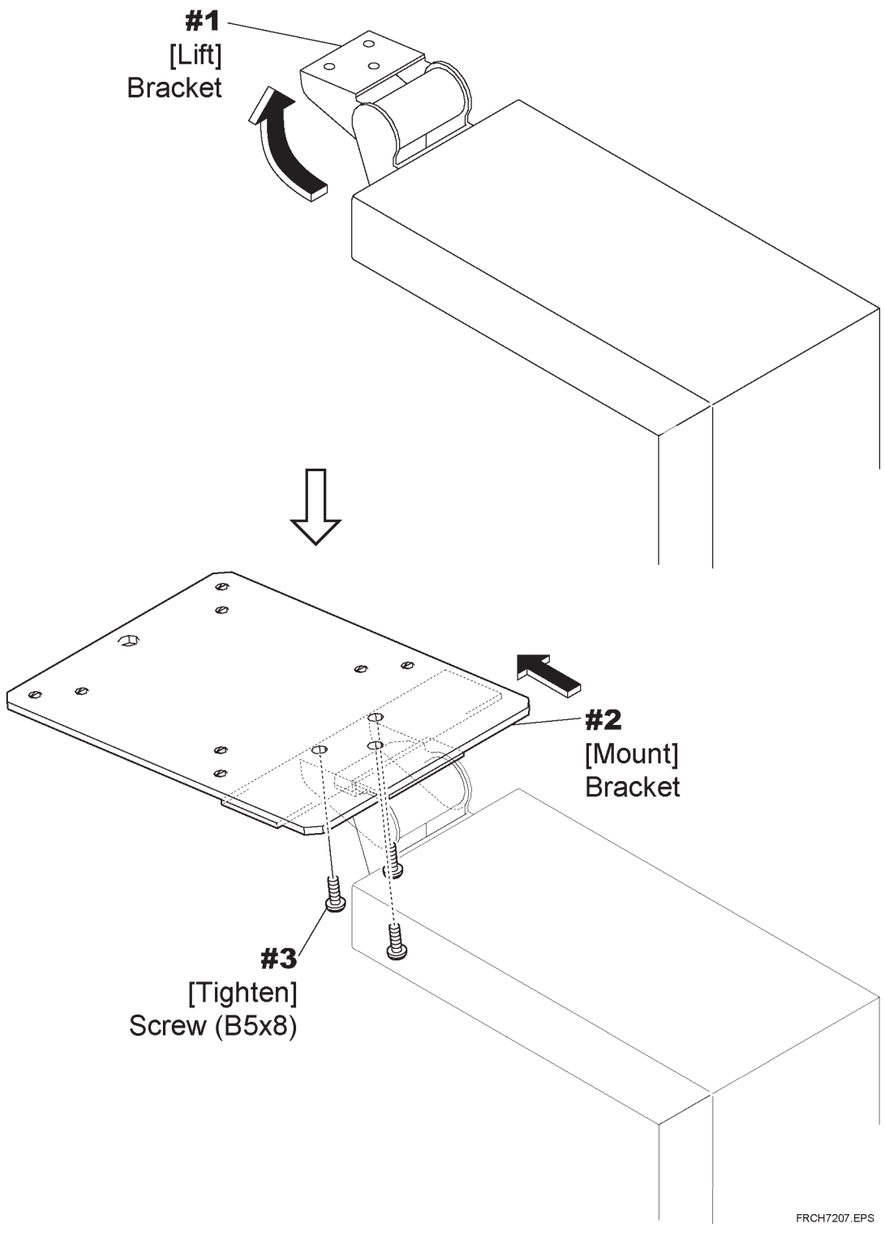
Be sure to mount the struts with the two screws temporarily tightened.



2. **Screw the arm.**



3. **Lift the connection at the tip of the arm by means of a tool such as pincers. Attach the bracket and screw it.**



4. **Secure the supporter.**

◆ ***NOTE*** ◆

When the arm (optional) has been mounted, be sure to retain the supporter according to "Appendix 3-5 Securing the Supporter".

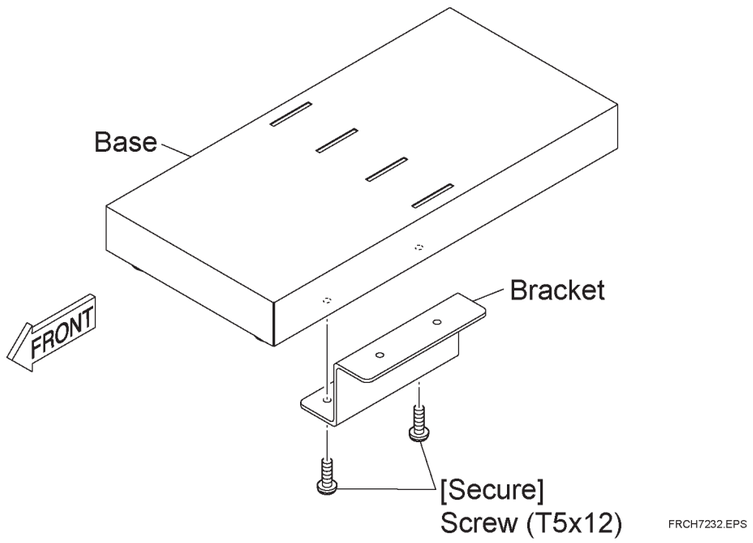
☞ ***{IN:Appendix 3-5_Securing the Supporter}***

3.2 Mounting the Base

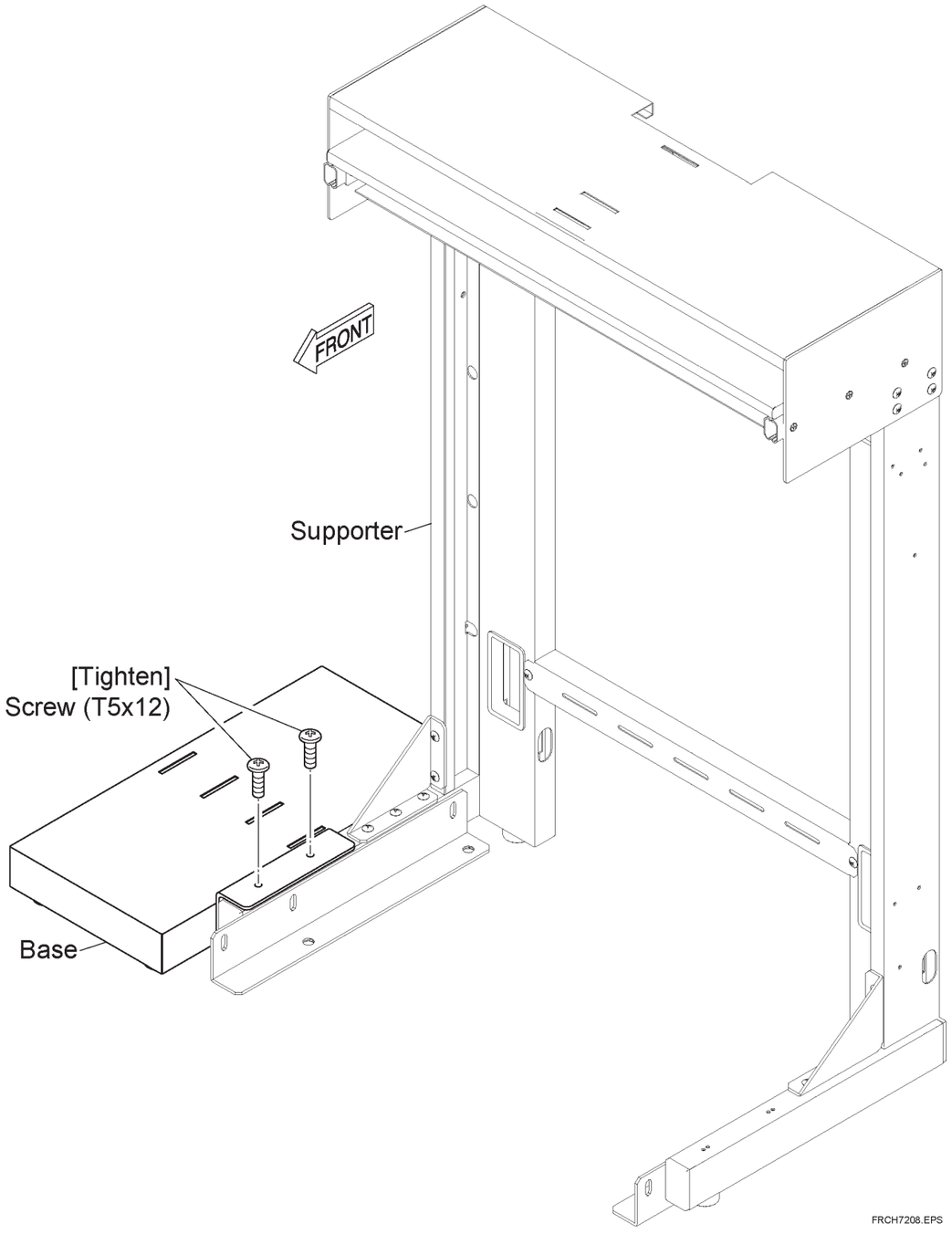
◇ *REFERENCE* ◇

The base can be placed either on the right or the left at symmetrical positions.

1. **Attach the bracket to the base.**



2. **Mount the base to the supporter.**

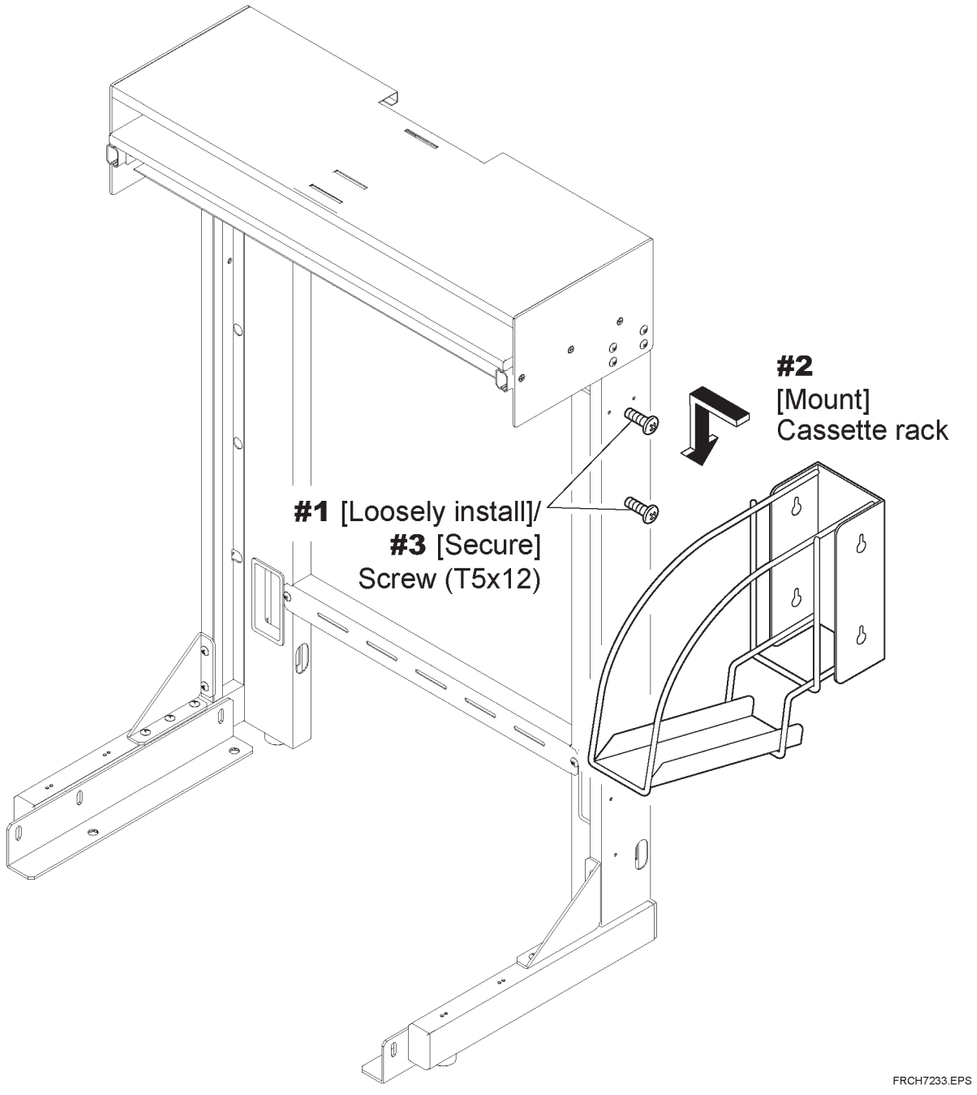


3.3 Mounting the Cassette Rack

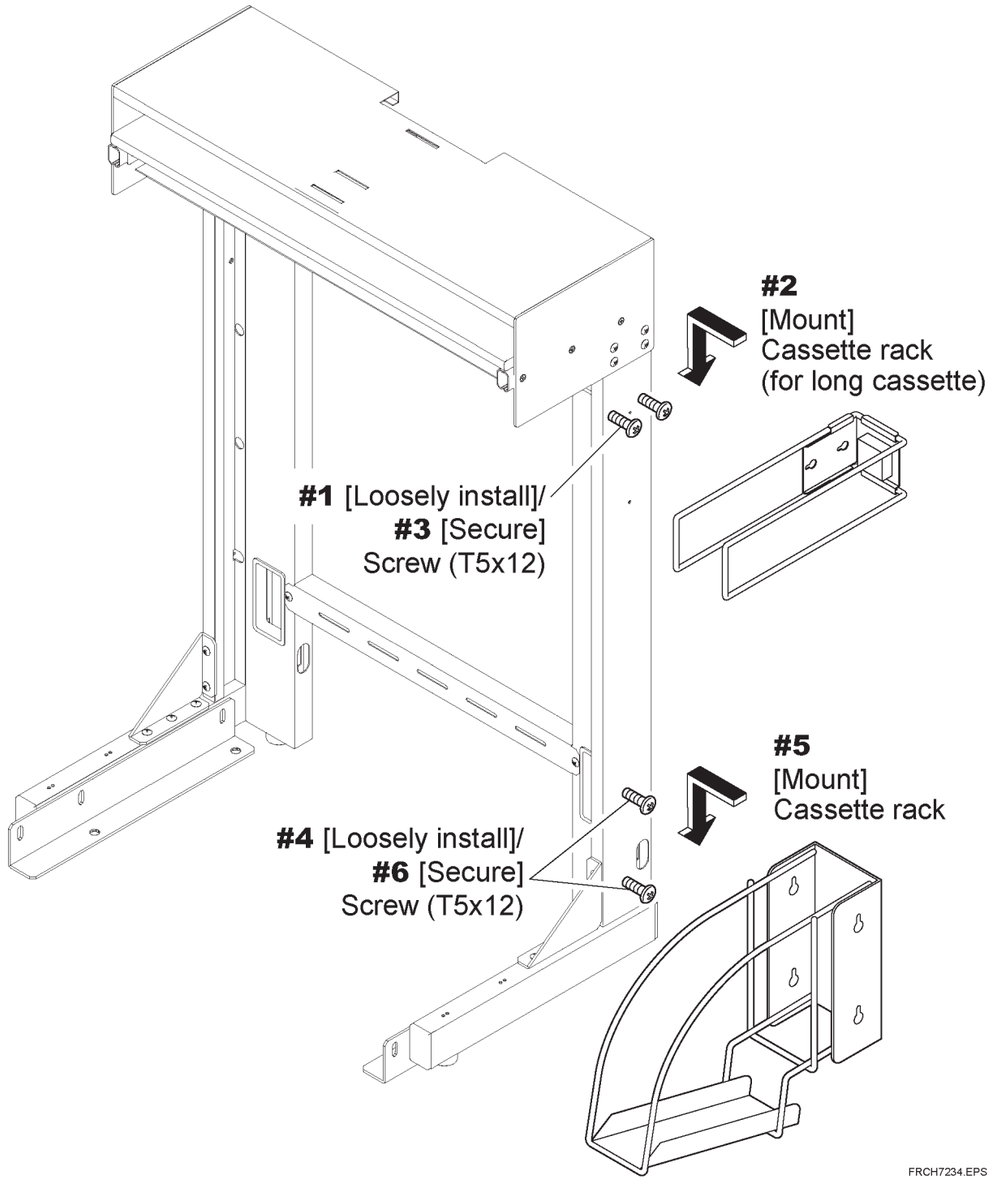
◇ *REFERENCE* ◇

The cassette rack can be placed either on the right or the left at symmetrical positions.

■ Mounting the Cassette Rack



■ Mounting the Cassette Rack (for Use with a Long Cassette)



4. Securing the Machine

⚠ WARNING

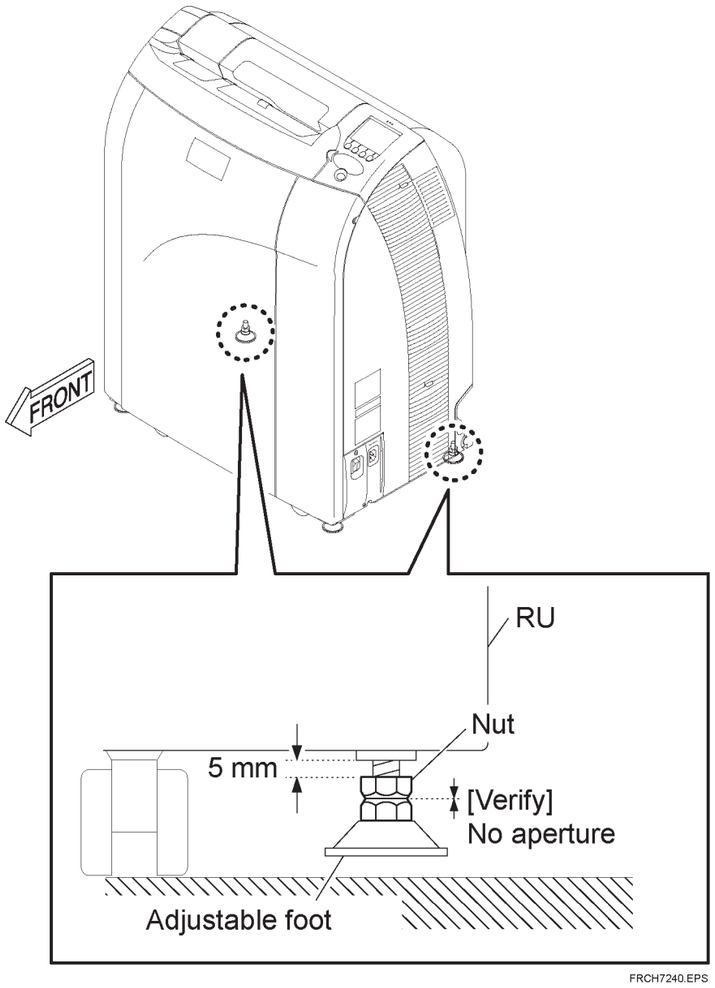
Be sure to fix the supporter to the floor or to the wall to secure the machine according to "Appendix 3-5 Securing the Supporter" in a site where a long cassette is used.

☞ *{IN:Appendix 3-5_Securing the Supporter}*

1. Adjust the height of the adjustable foot so that a distance from the upper surface of the nut of the adjustable foot to the bottom of the machine is approx. 5 mm, in order to mount the bracket on the machine. After the adjustment, check to make sure that there is no aperture between the two nuts of the adjustable foot.

◆ ***NOTE*** ◆

Check to make sure that there is no aperture between the two nuts of the adjustable foot. If there is an aperture between the nuts, the machine retaining bracket cannot be fixed properly.



FRCH7240.EPS

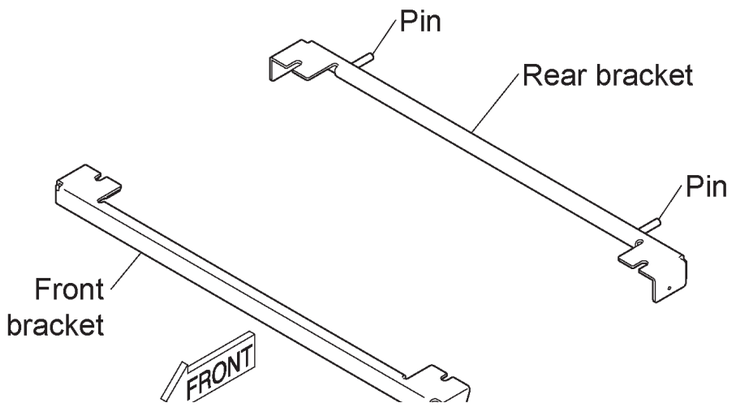
2. Insert the rear bracket from the rear of the machine between the nut of the adjustable foot and the bottom of the machine. While pushing the bracket against the machine, fasten the nut of the adjustable foot for retaining.

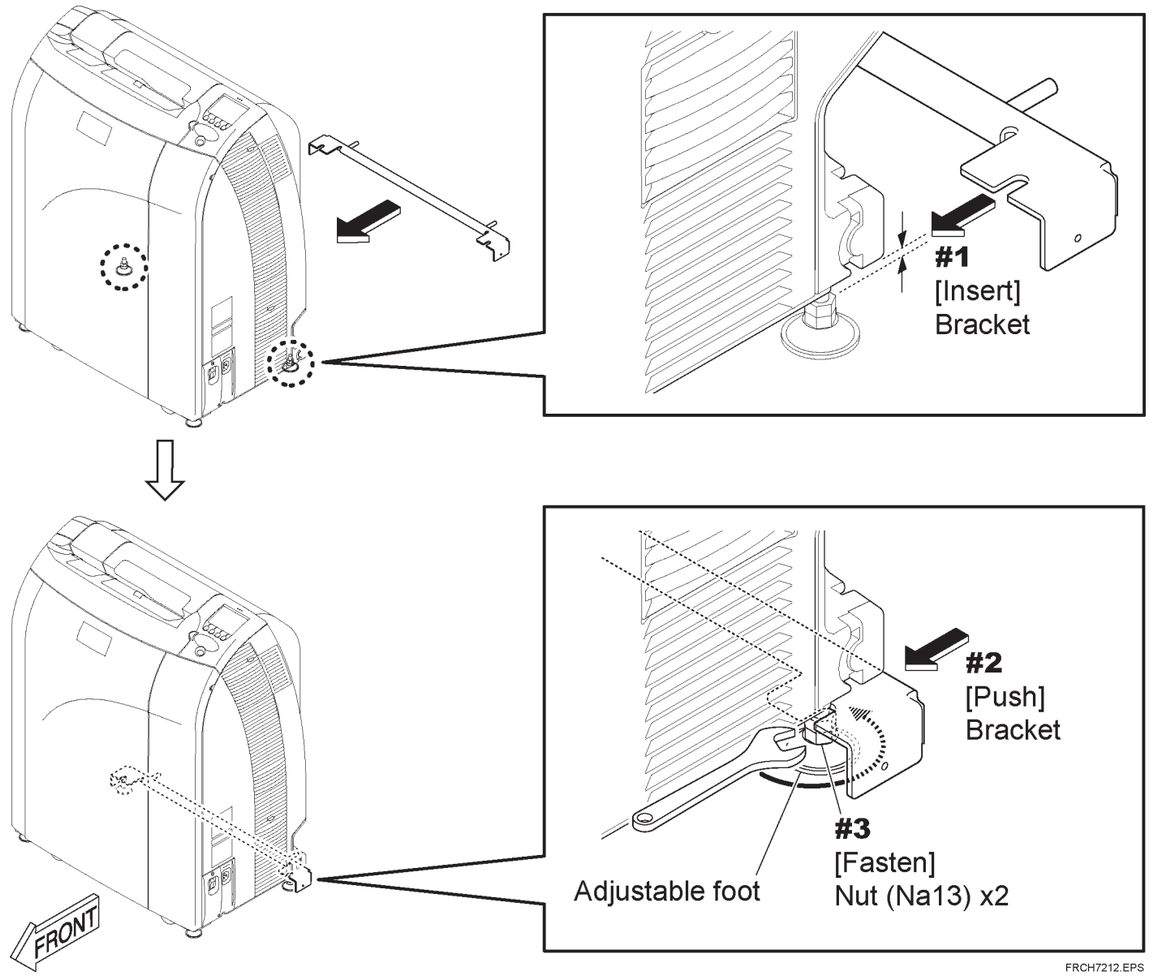
◆ *NOTES* ◆

- *Be sure to fasten the nut while pushing the bracket against the machine. If the bracket is pushed insufficiently, the machine may not be able to be properly retained.*
- *When fastening the nut of the adjustable foot, exercise care not to cause an aperture between the two nuts. The bracket might not be able to be properly retained.*

◇ *REFERENCE* ◇

The front bracket (for use on the front face) and the rear bracket (for use on the rear face) of the anti-topple retainer have different shapes.
The rear bracket has pins on its back surface.



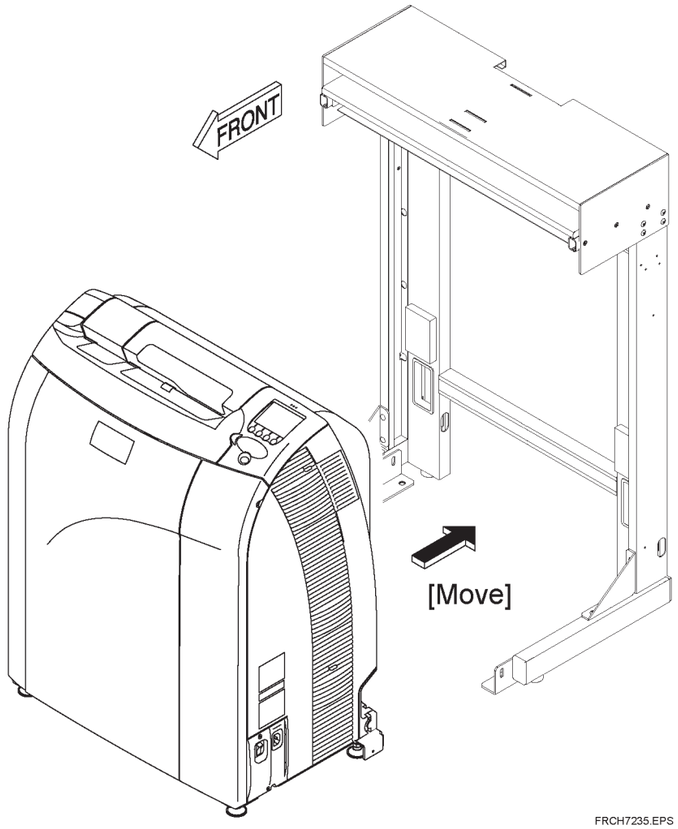


FRCH7212.EPS

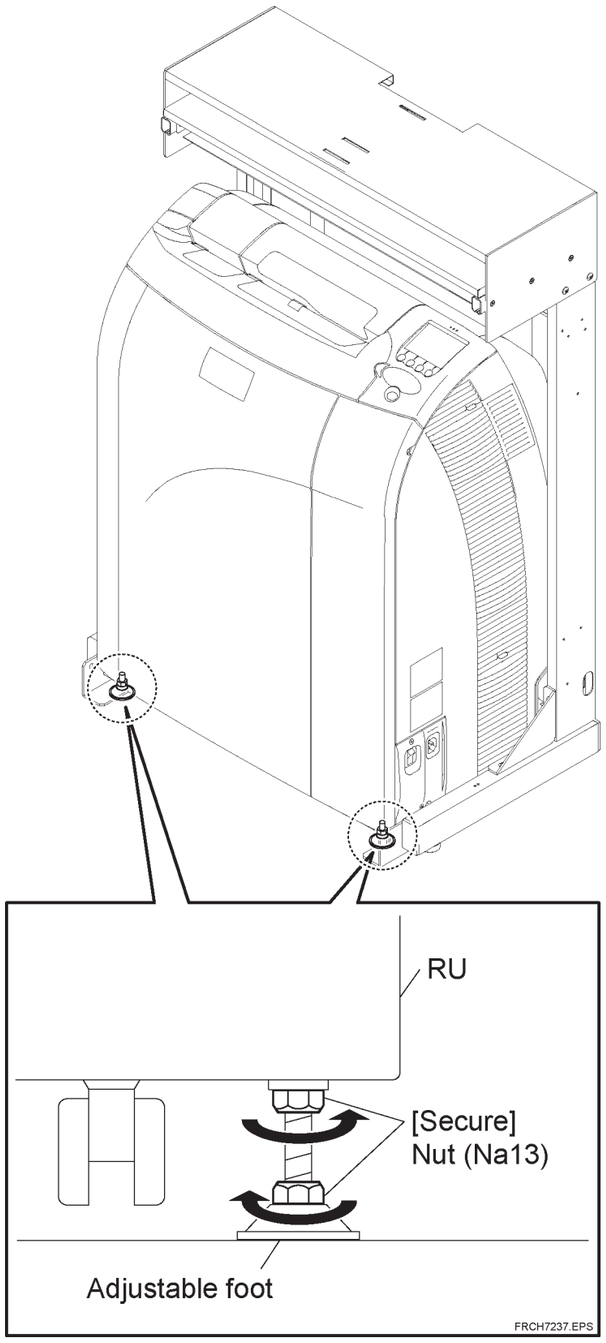
3. **Move the machine into the supporter.**

CAUTION

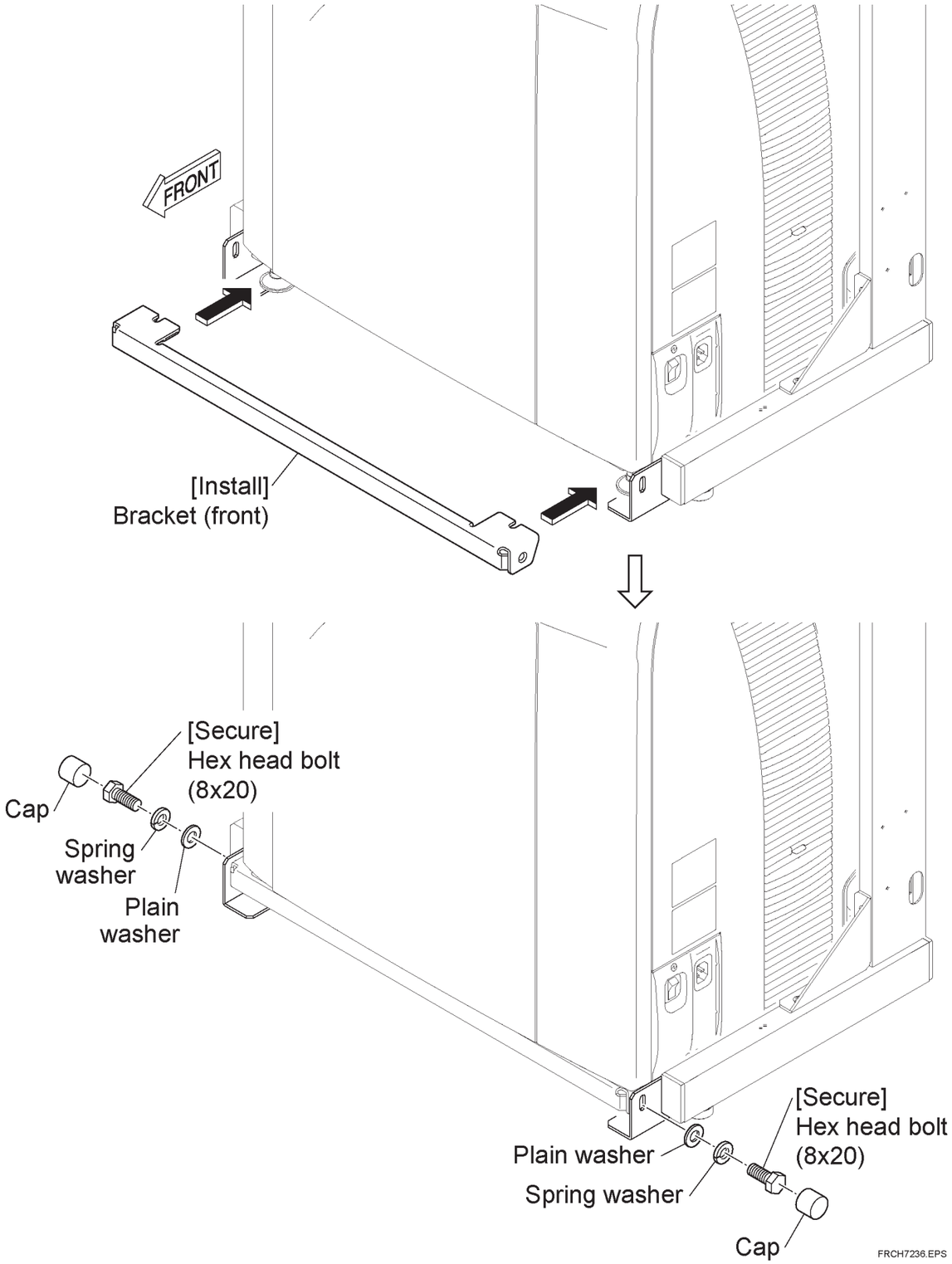
When pushing the machine into the supporter or pulling the machine out of the supporter, exercise care so that your fingers and other parts of your body are not caught between the supporter and machine.



4. **Fix the adjustable feet on the front face of the machine.**



5. **Place the bracket (for the front face) and secure with hex head bolts.**



5. Securing the Supporter

⚠ WARNING

Be sure to fix the supporter to the floor or to the wall to secure the machine in a site where a long cassette is used.

◆ NOTE ◆

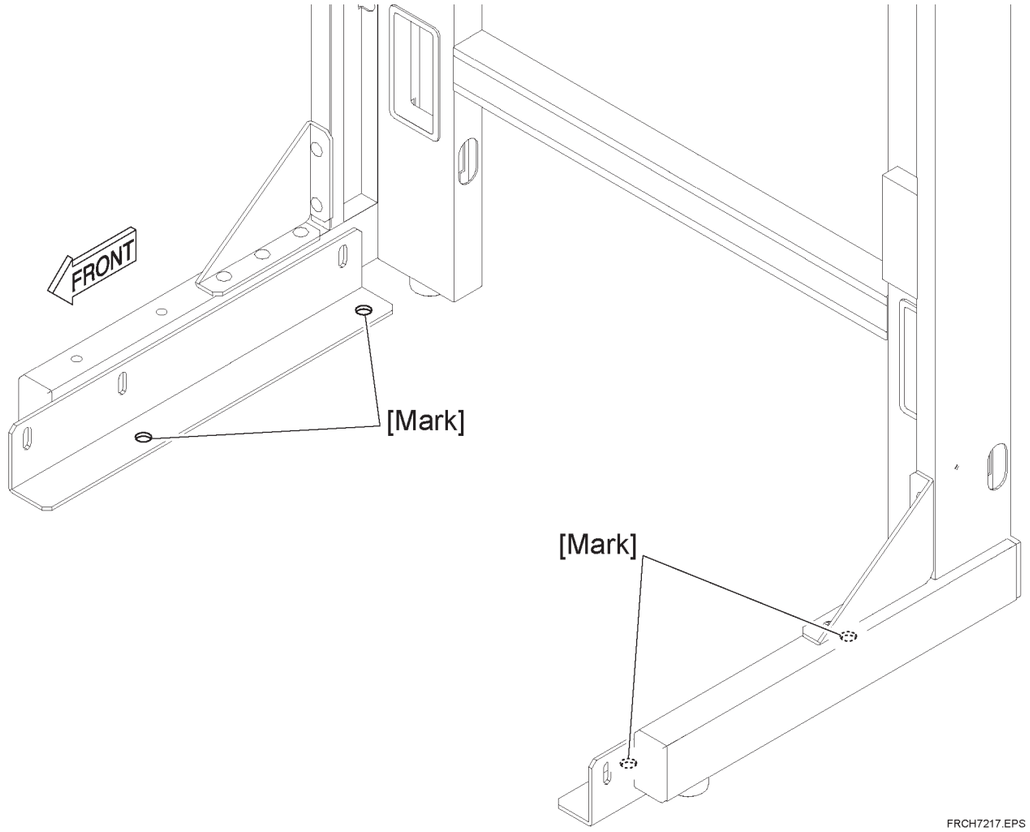
When the arm (optional) has been mounted, be sure to fix the supporter to the floor or the wall to secure the machine.

To secure the supporter, it is sometimes fixed to the floor and sometimes to the wall. Depending on the conditions on the installation site, follow the reference procedures below to fix the supporter to the floor or to the wall, before securing the machine.

- **When the supporter is to be fixed to the floor:**
  ☞**{IN:Appendix 3-5.1_Fixing the Supporter to the Floor}**
- **When the supporter is to be fixed to the wall:**
  ☞**{IN:Appendix 3-5.2_Fixing the Supporter to the Wall}**

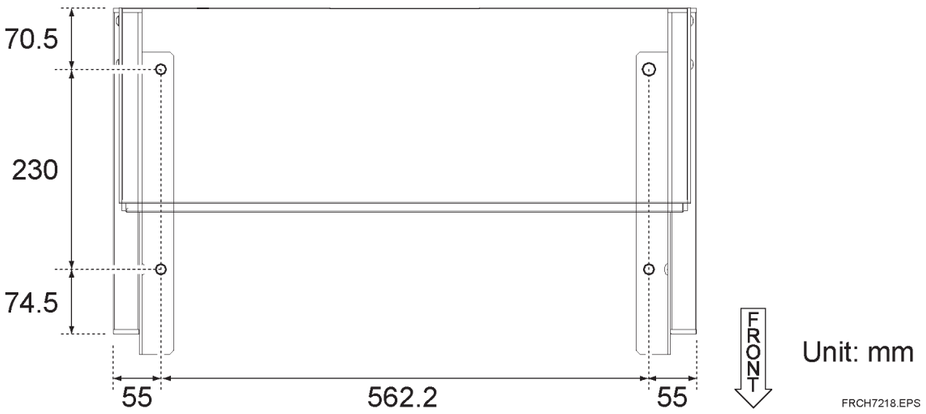
5.1 Fixing the Supporter to the Floor

1. **Put the assembled supporter on a position where it is to be fixed. While holding the supporter not to shift, mark with a pen or the like the positions to be bored where the anchor nuts are to be embedded.**



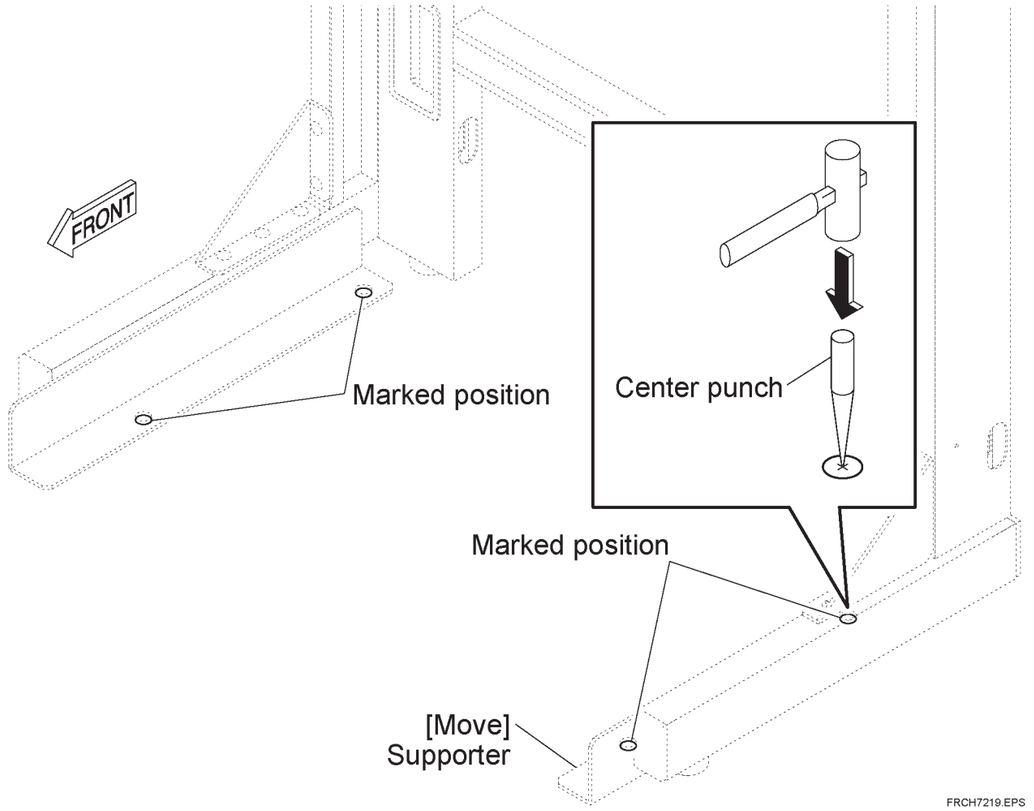
FRCH7217.EPS

<Reference value>



FRCH7218.EPS

2. **Once move the supporter. Strike the center punch at the center of the marked position to easily drill a hole.**



FRCH7219.EPS

3. **Drill holes with a diameter of 12.5 mm and a depth of 35 mm at the four marked positions.**

⚠ CAUTION

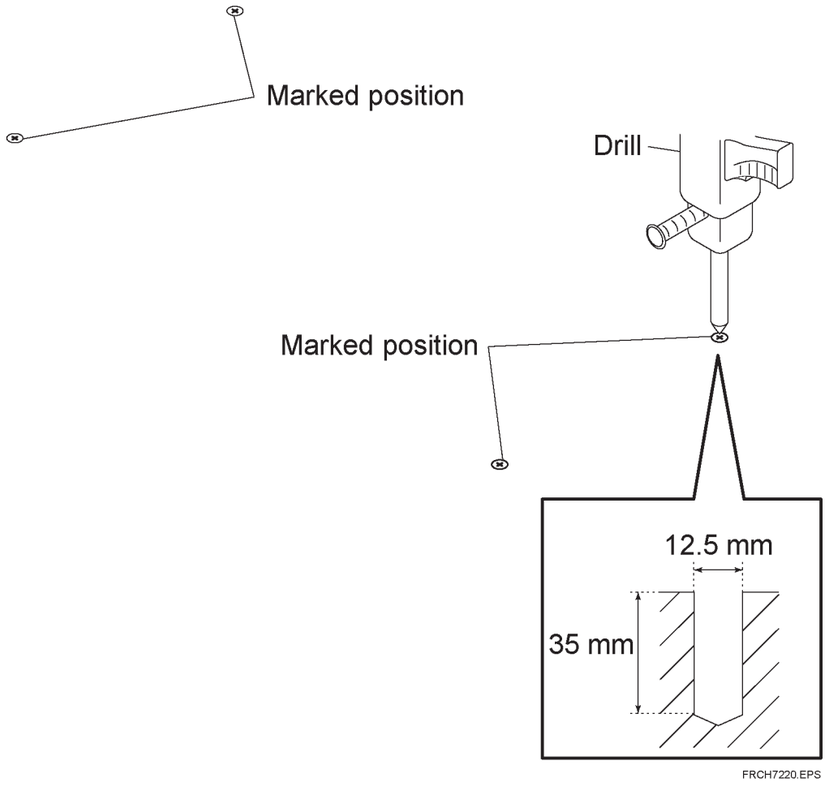
When drilling a hole, wear protective goggles. Drilled chips might scatter.

◆ NOTE ◆

When drilling a hole, exercise care not to tilt the drill. If the drill is tilted, the anchor nut cannot be embedded straight. As a result, there is possibility that the supporter cannot be correctly retained.

◇ *REFERENCE* ◇

When drilling a hole, use of a vacuum cleaner is recommended. If the hole is drilled while sucking the chips by the vacuum cleaner, the depth of the hole can be easily checked.

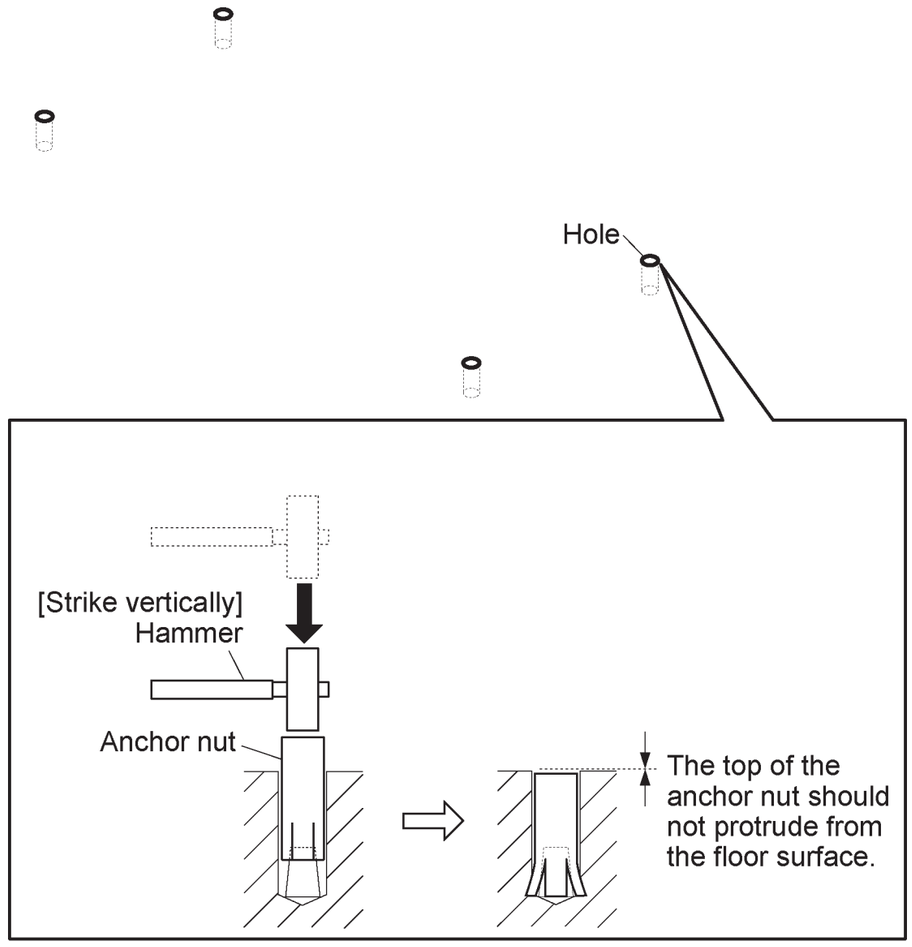


FRCH7220.EPS

4. **Strike the anchor nut by a hammer to embed the nut into the four drilled holes.**

◆ NOTES ◆

- *When embedding the anchor nut, strike the top of the anchor nut vertically to the nut. If the top of the anchor nut deforms, the bolt for retaining the bracket cannot be installed.*
- *Embed the anchor nut until its top does not protrude from the floor surface.*

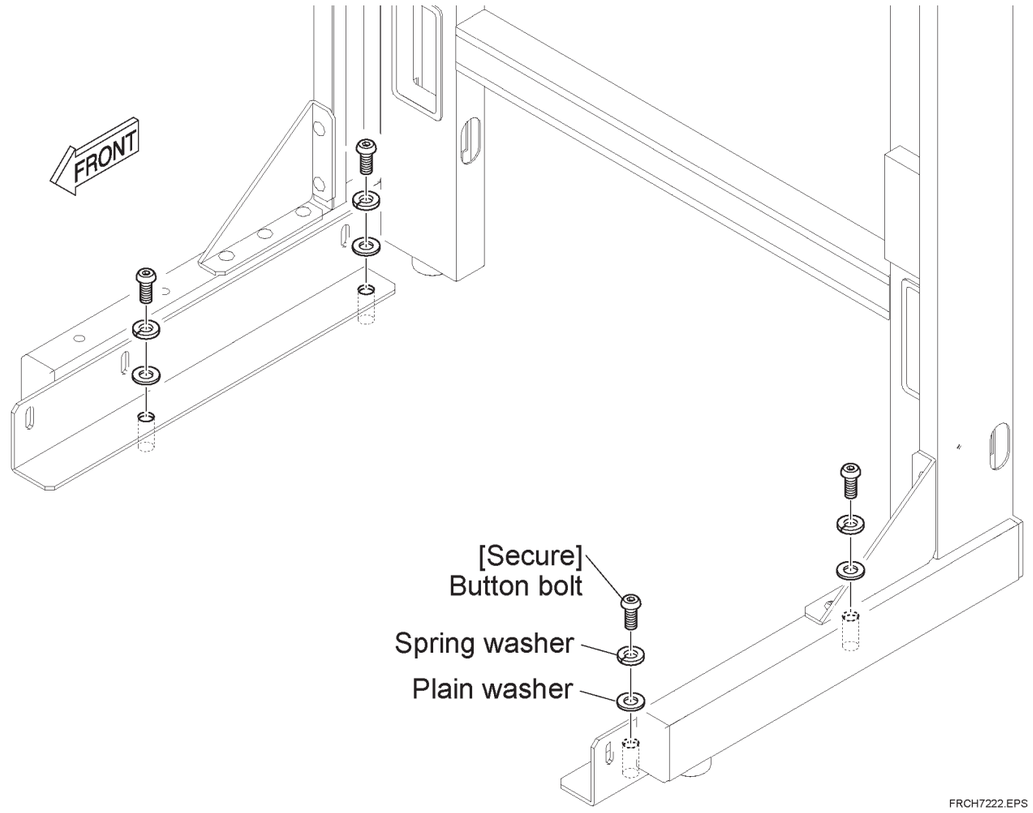


FRCH7221.EPS

5. **Place the supporter on a position where it is to be fixed.**

◆ ***NOTE*** ◆

Always use button bolts to fix the supporter. If a normal bolt is used, the head of the bolt comes into contact with the adjustable foot when the machine is moved, and the adjustable foot might get deformed.



6. **Secure the machine.**

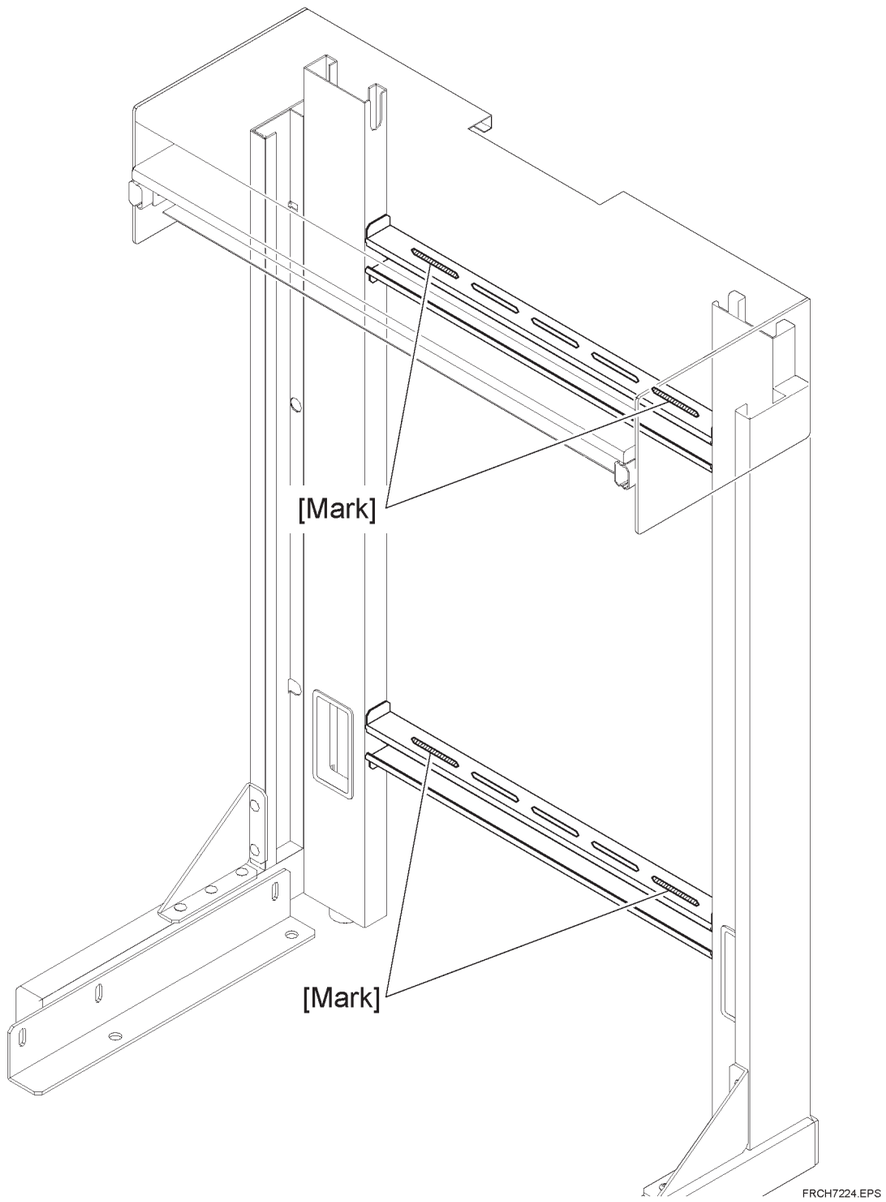
☞{IN:Appendix 3-5.3_Securing the Machine (when the Supporter has been Fixed)}

5.2 Fixing the Supporter to the Wall

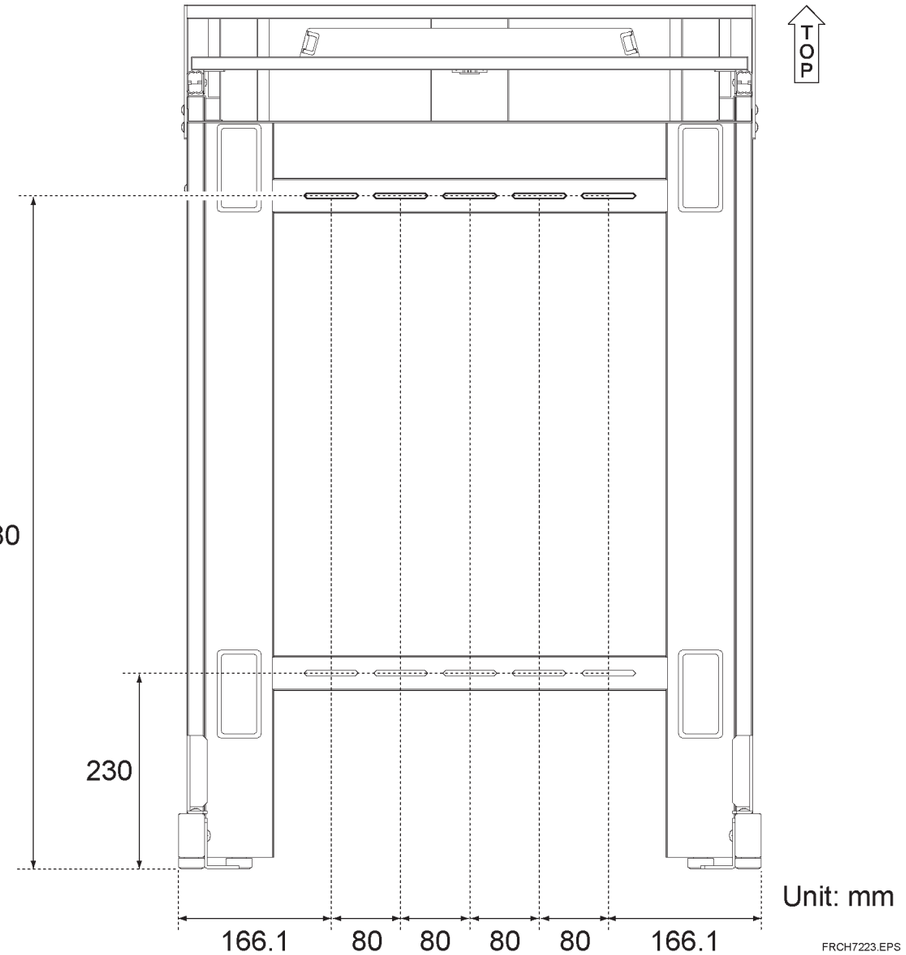
1. Place the assembled supporter on a position where it is to be fixed. Check the conditions of the wall at the installation site. Mark the positions to be screwed with a pen or the like.

◇ *REFERENCE* ◇

Mark two holes among five holes on each of the upper and lower struts.



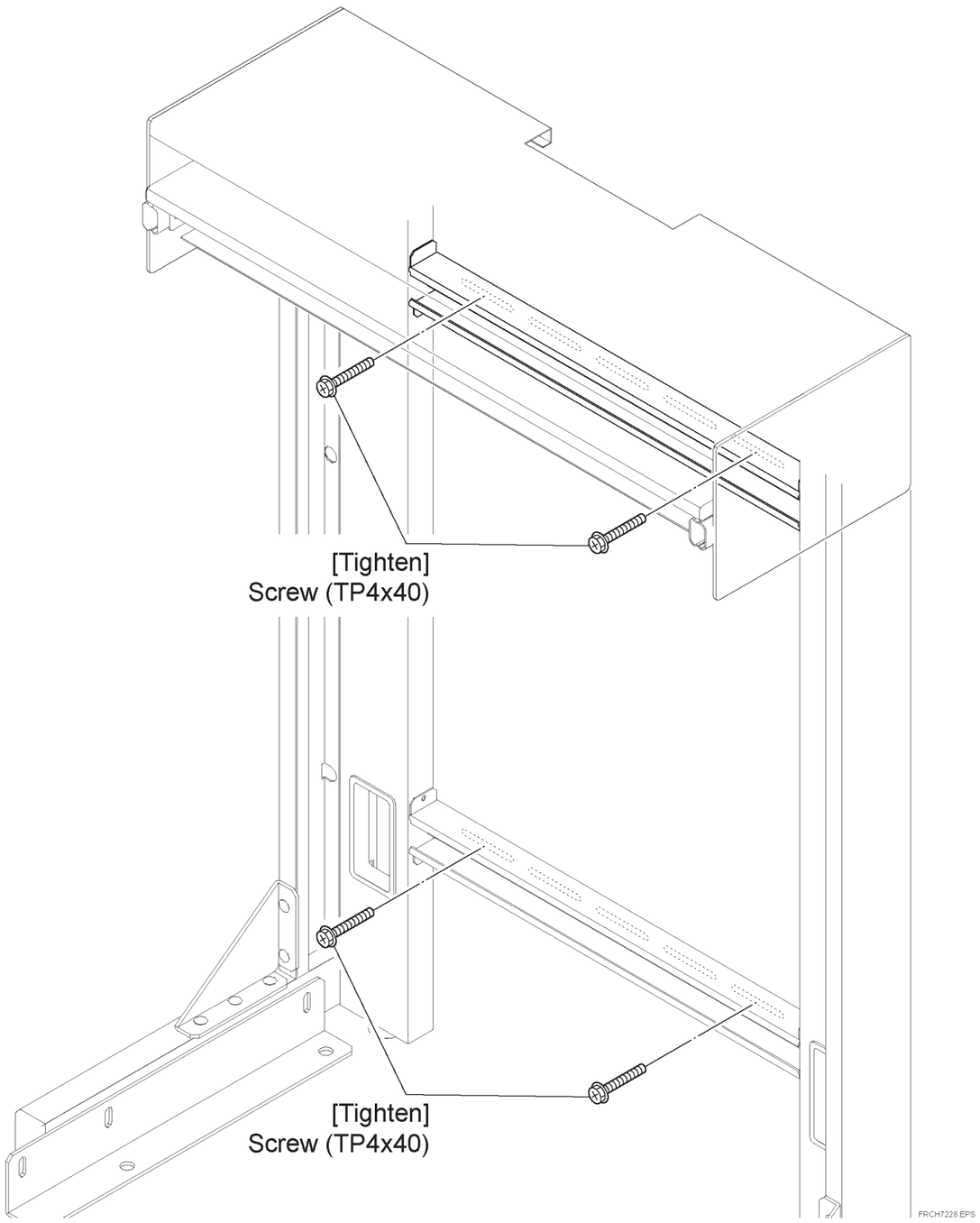
<Reference value>



2. **Screw the supporter.**

◇ *REFERENCE* ◇

Make a preparatory hole of approx. 1 mm on the wall before screwing. This makes the screws easy to be tightened.



3. **Secure the machine.**

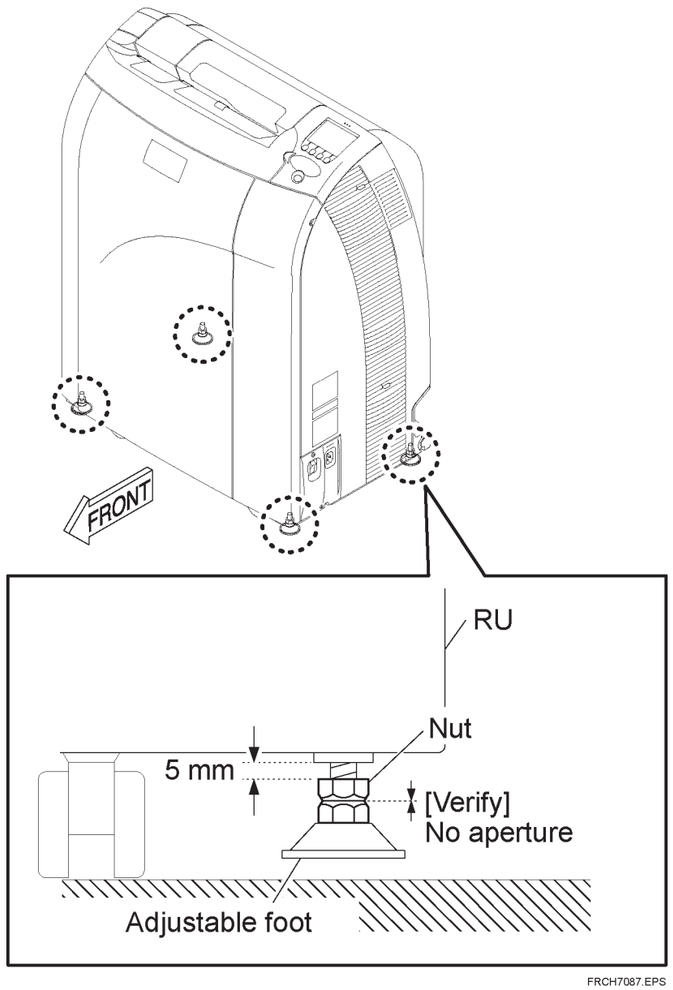
☞{IN:Appendix 3-5.3_Securing the Machine (when the Supporter has been Fixed)}

5.3 Securing the Machine (when the Supporter has been Fixed)

1. **Adjust the height of the adjustable foot so that a distance from the upper surface of the nut of the adjustable foot to the bottom of the machine is approx. 5 mm, in order to mount the bracket on the machine. After the adjustment, check to make sure that there is no aperture between the two nuts of the adjustable foot.**

◆ ***NOTE*** ◆

Check to make sure that there is no aperture between the two nuts of the adjustable foot. If there is an aperture between the nuts, the machine retaining bracket cannot be fixed properly.



FRCH7087.EPS

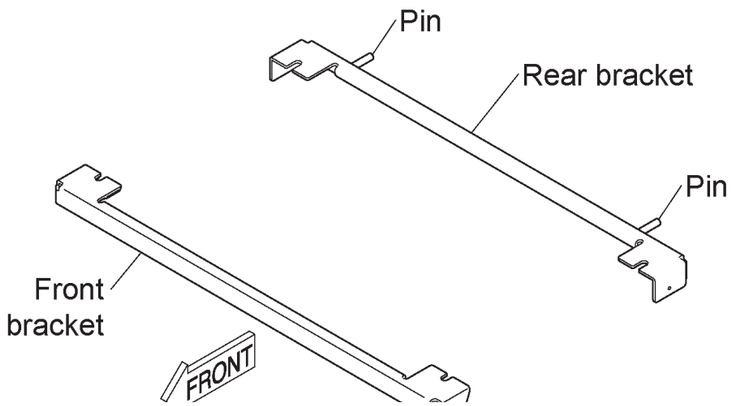
2. Insert the rear bracket from the rear of the machine between the nut of the adjustable foot and the bottom of the machine. While pushing the bracket against the machine, fasten the nut of the adjustable foot for retaining.

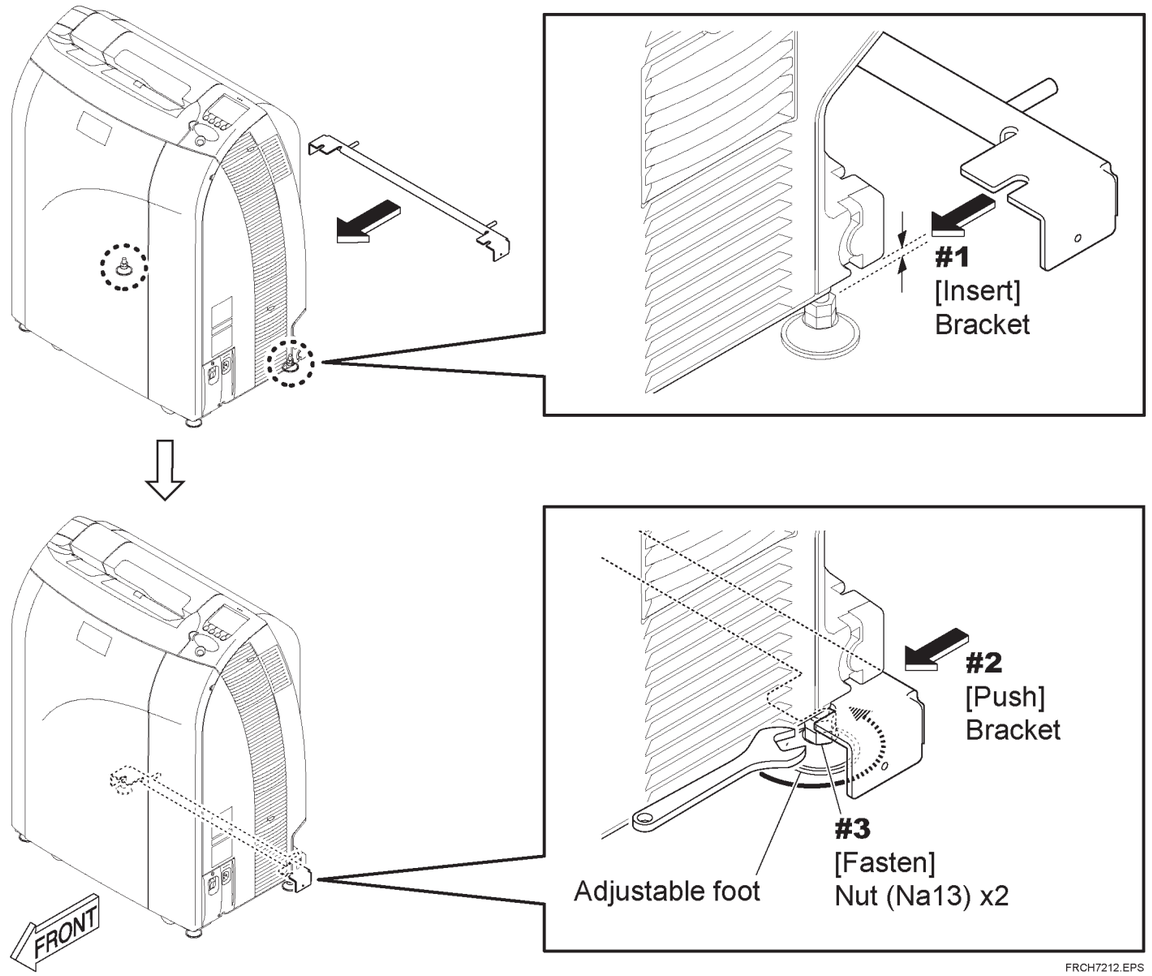
◆ *NOTES* ◆

- *Be sure to fasten the nut while pushing the bracket against the machine. If the bracket is pushed insufficiently, the machine may not be able to be properly retained.*
- *When fastening the nut of the adjustable foot, exercise care not to cause an aperture between the two nuts. The bracket might not be able to be properly retained.*

◇ *REFERENCE* ◇

The front bracket (for use on the front face) and the rear bracket (for use on the rear face) of the anti-topple retainer have different shapes.
The rear bracket has pins on its back surface.



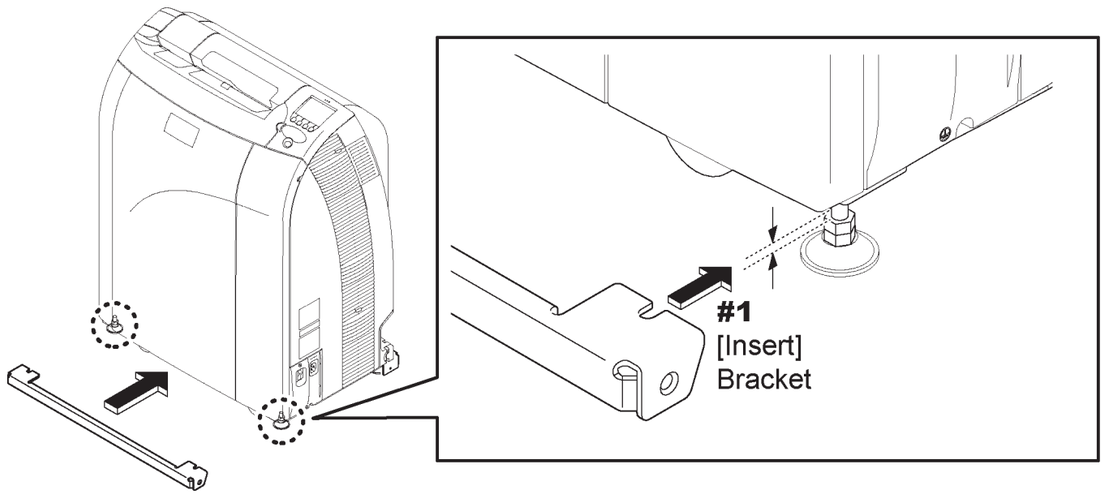


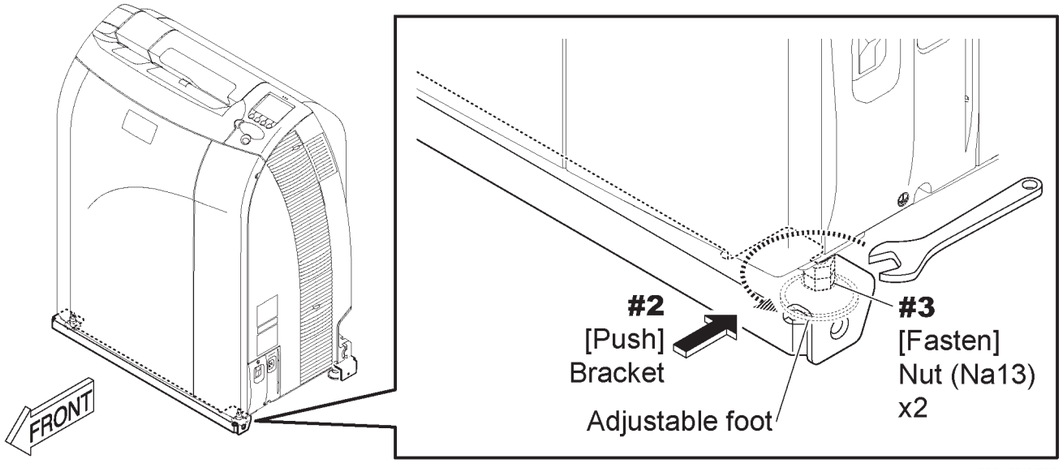
FRCH7212.EPS

3. **Insert the front bracket from the front of the machine between the nut of the adjustable foot and the bottom of the machine. While pushing the bracket against the machine, fasten the nut of the adjustable foot for retaining.**

◆ NOTES ◆

- *Be sure to fasten the nut while pushing the bracket against the machine. If the bracket is pushed insufficiently, the machine may not be able to be properly retained.*
- *When fastening the nut of the adjustable foot, exercise care not to cause an aperture between the two nuts. The bracket might not be able to be properly retained.*



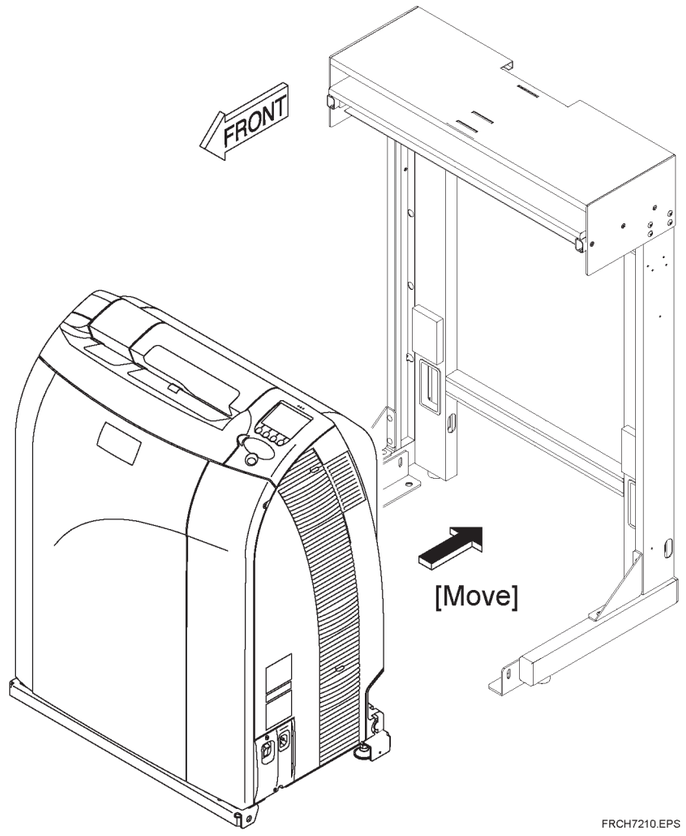


FRCH7213.EPS

4. **Move the machine into the supporter.**

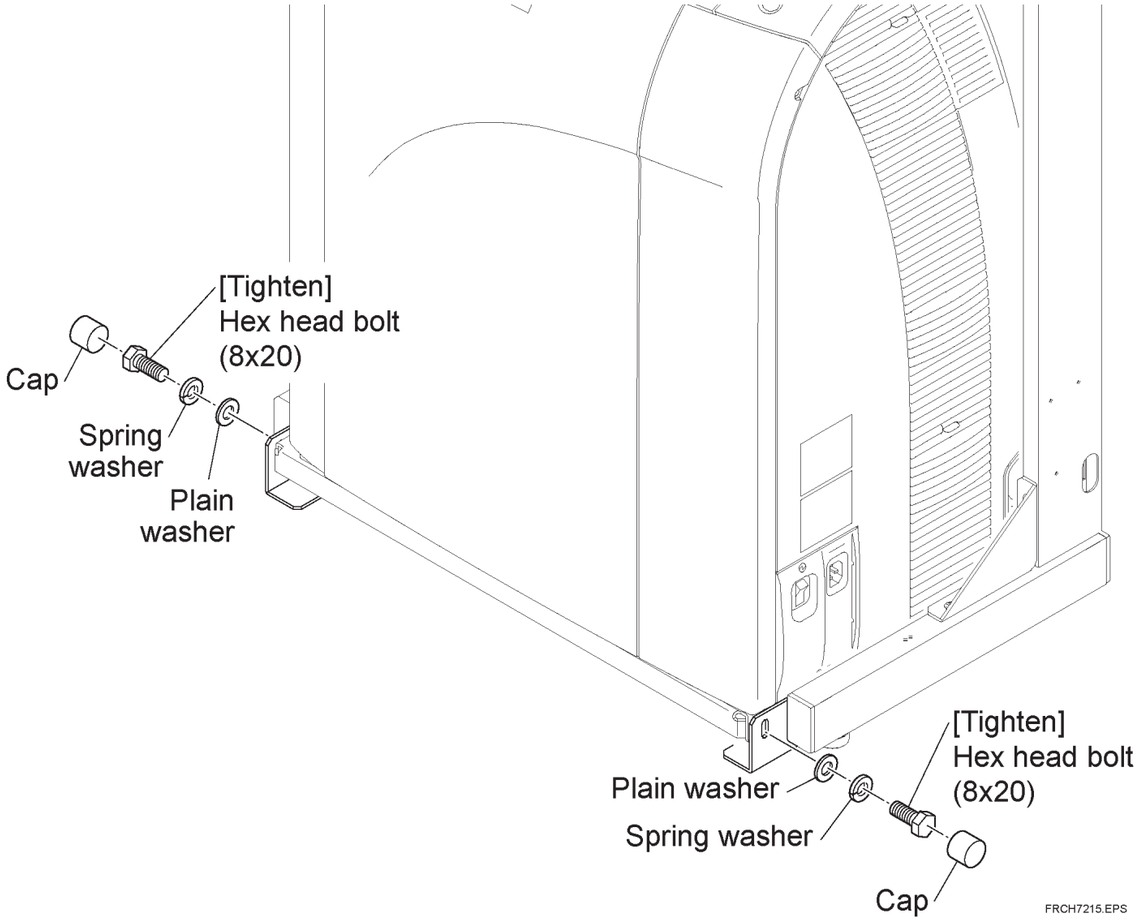
⚠ CAUTION

When pushing the machine into the supporter or pulling the machine out of the supporter, exercise care so that your fingers and other parts of your body are not caught between the supporter and machine.



FRCH7210.EPS

5. **Install the hex head bolts.**



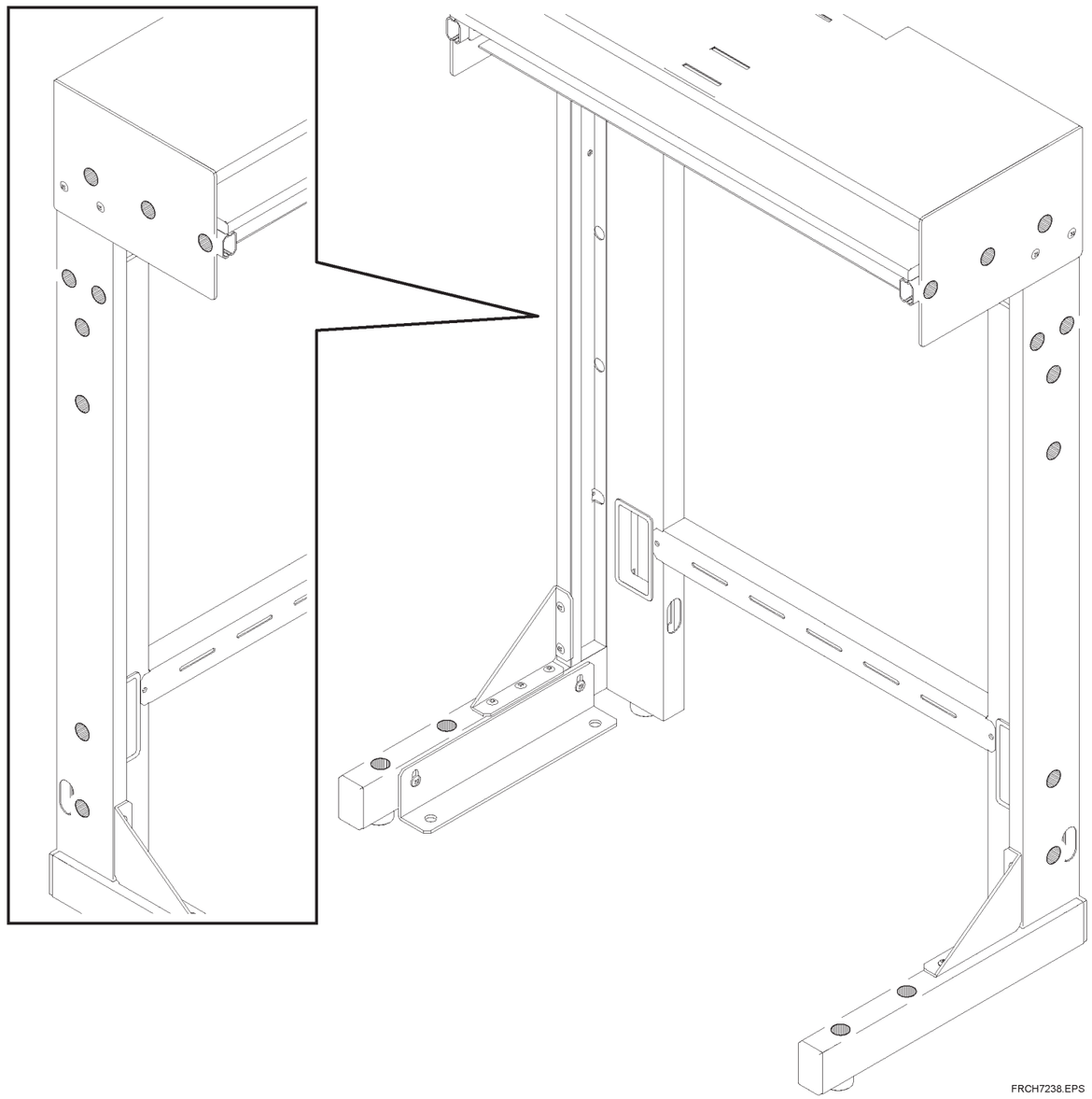
6. Applying the Seal

1. Apply the seals to the screw holes on the supporter.

◇ *REFERENCE* ◇

The number of seals to be applied depends on whether an optional part has been mounted. The locations where the seals might be applied are shown below.

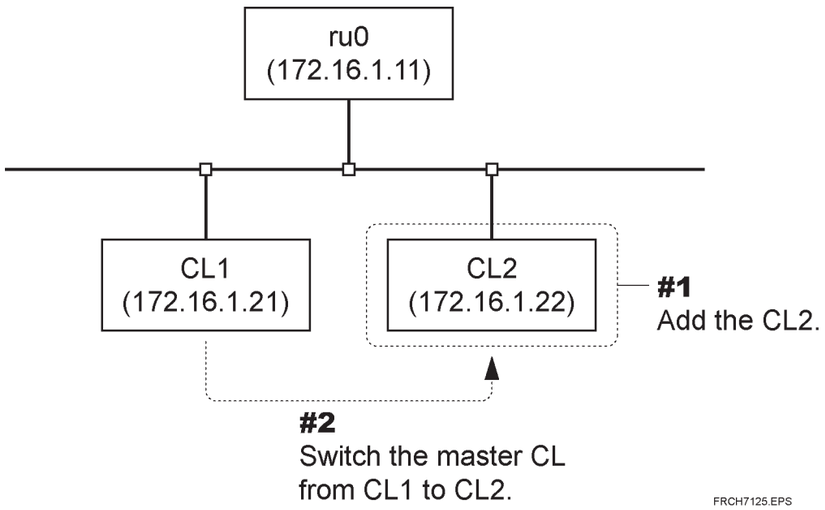
: Locations of the seals



7. Nothing

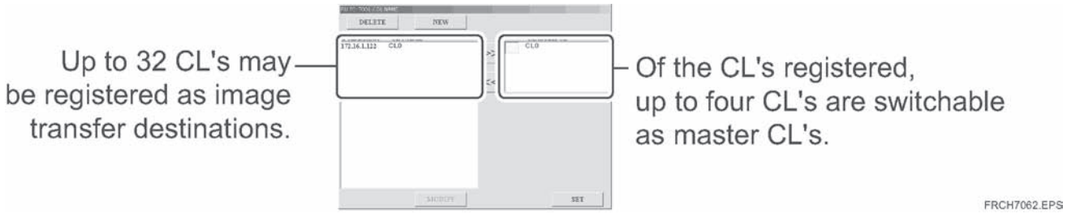
Appendix 4. Setting the Master CL

This section describes the procedures for additionally register the CL2 (172.16.1.22) into the system that consists of the RU (ru0: 172.16.1.11) and CL1 (master CL: 172.16.1.21), and for switching the master CL from CL1 to CL2.



◇ *REFERENCE* ◇

Up to 32 CR Console's may be registered as image transfer destinations. Of the CR Console's registered, up to four CR Console's are switchable as master CL's.

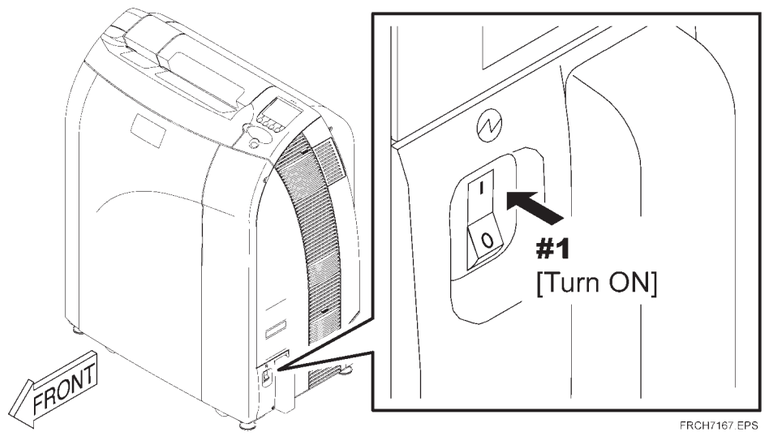


For more detail about the function that may be set on the "EDIT CL NAME" screen, see "4.14 EDIT CL NAME" of the Maintenance Utility volume.

☞ ***{MU:4.14_EDIT CL NAME}***

1. Additionally Registering the Master CL (Procedures on the CL1)

1. **Turn ON the power of the CR Console.**
2. **Turn ON the circuit breaker of the RU.**

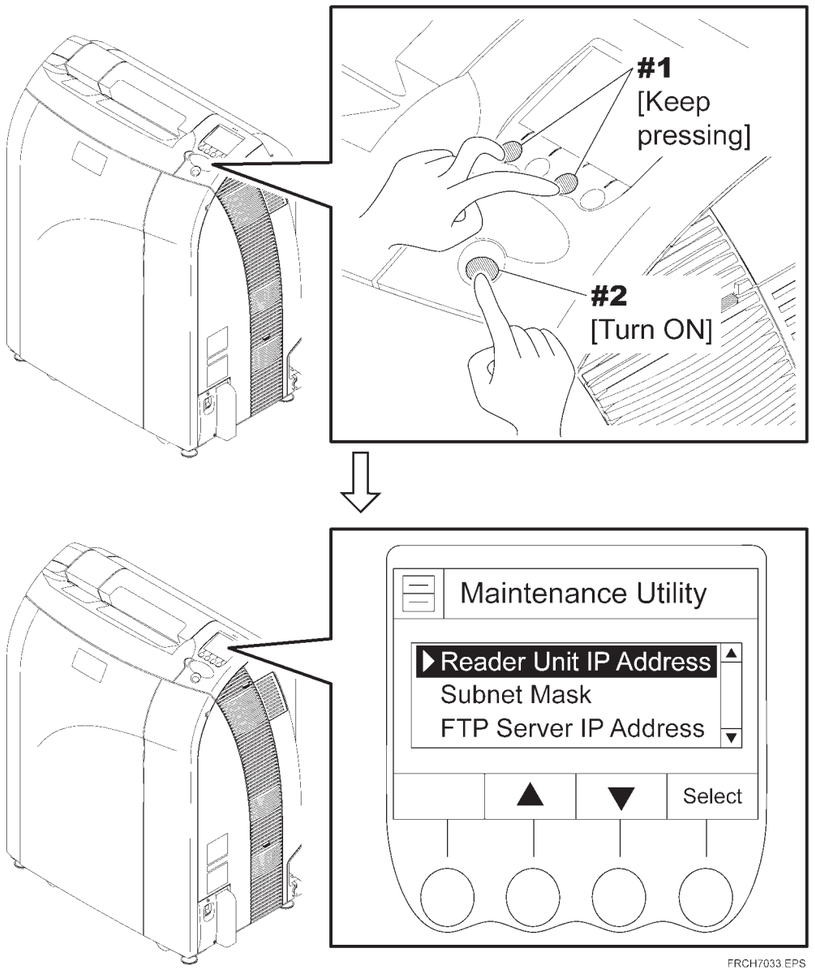


3. **Start up the Machine Maintenance Utility of the RU.**

Turn ON the RU power while pressing the first and third buttons from the left on the operation panel. Keep pressing the first and third buttons from the left until the "Maintenance Utility" window appears on the operation panel.

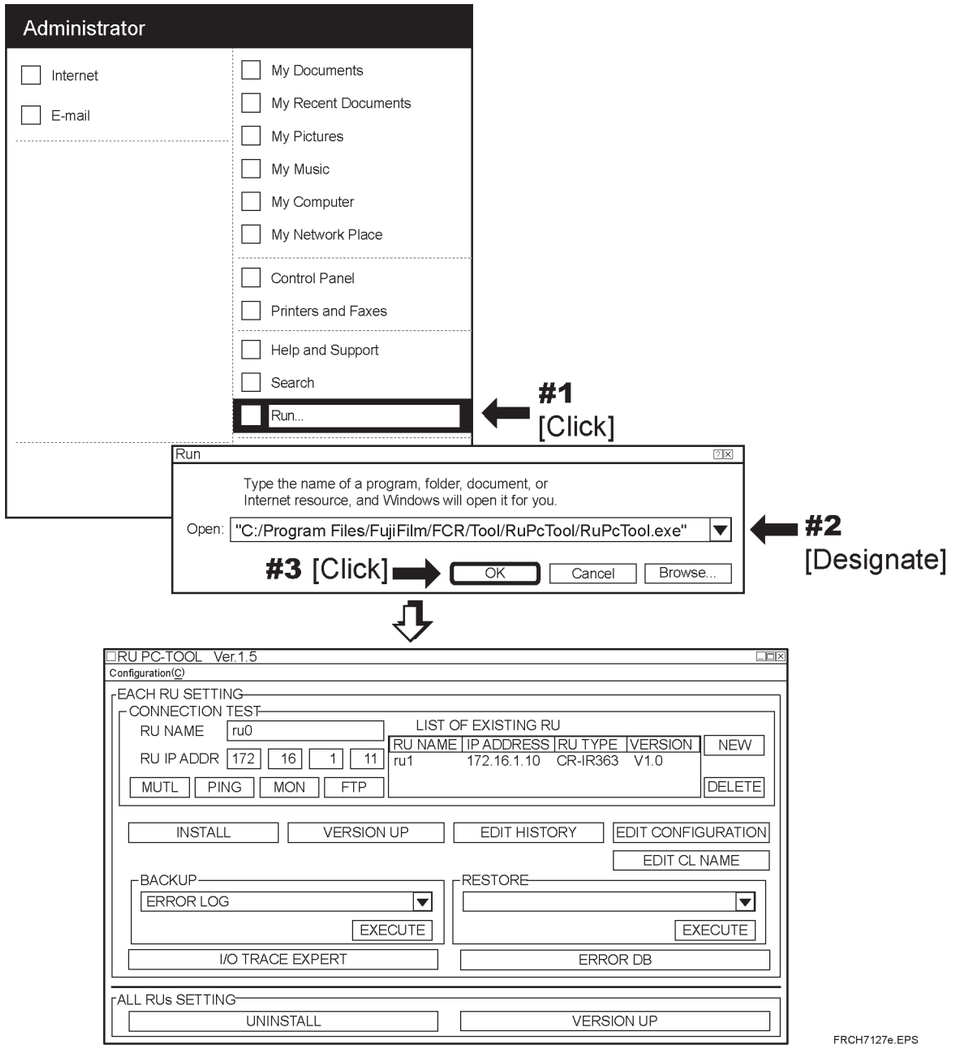
◆ ***NOTE*** ◆

Be sure to keep pressing the first and third buttons from the left until the "Maintenance Utility" window appears on the operation panel. If the "Maintenance Utility" window does not appear and the RU starts to boot up, once turn OFF the RU power and repeat from the procedure 1.



FRCH7033.EPS

4. **Select [Run...] from the Start menu of Windows. When the dialog opens, type ["C:\Program Files\FujiFilm\FCR\TOOL\RuPcTool\RuPcTool.exe"] and click on the [OK] button.**



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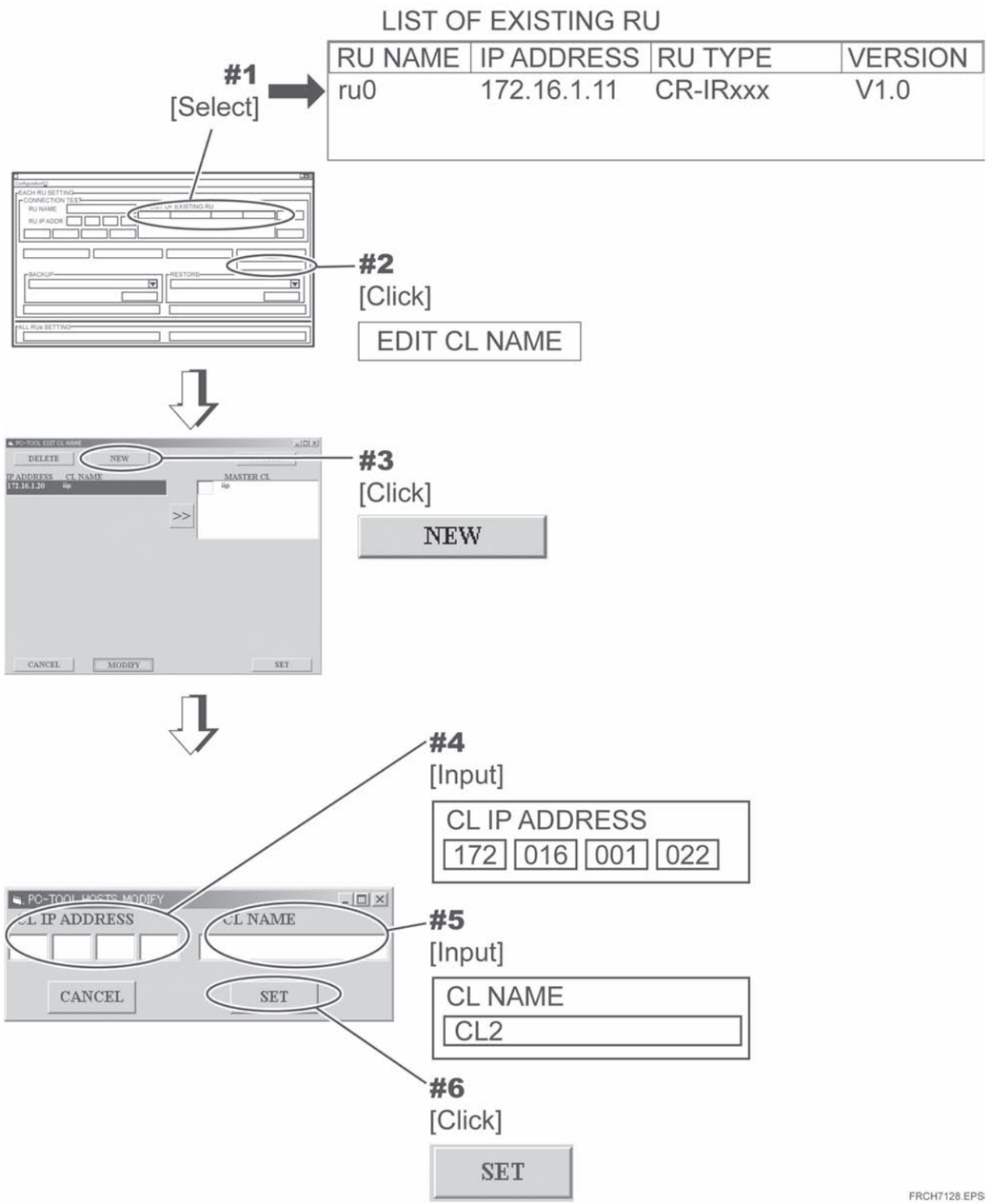
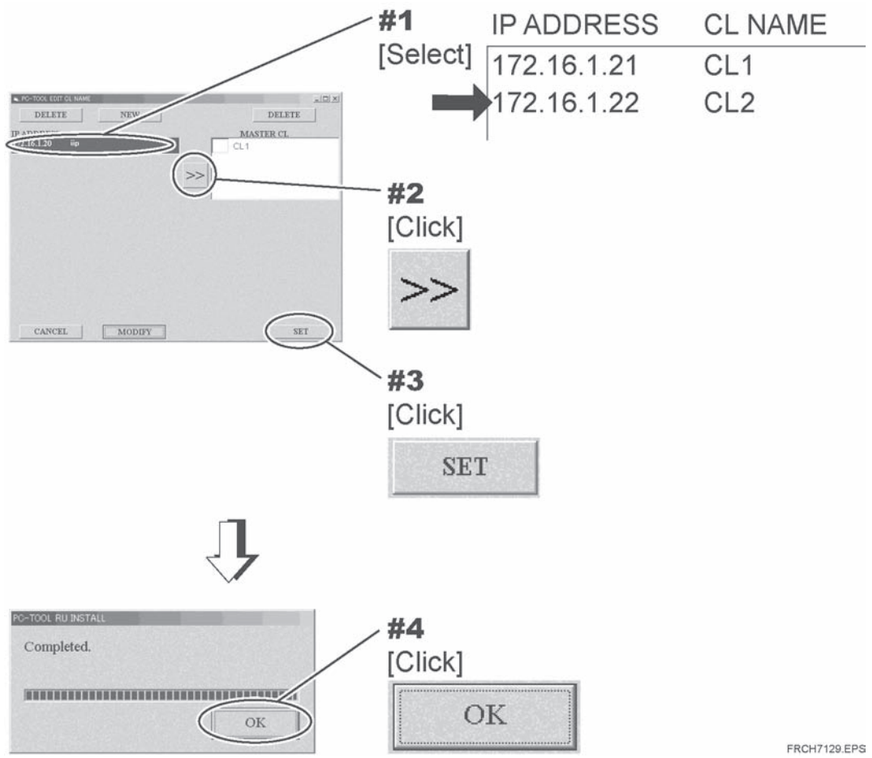
5. **From "LIST OF EXISTING RU", select a RU where the master CL is to be added, and enter the "IP ADDRESS" and "CL NAME" of the master CL to be added.**



6. **Register the master CL (CL2) created at procedure 5 into the master CL.**



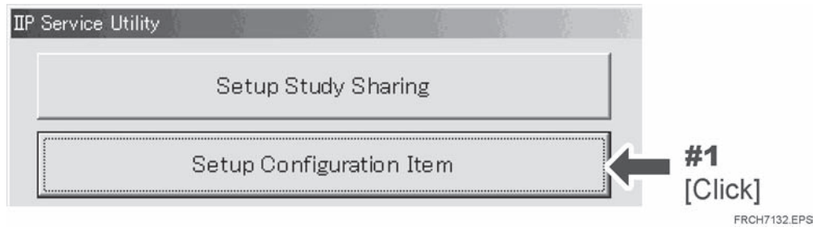
7. **Close the RU PC-TOOL window.**

2. Registering the RU (Procedures on the CL2)

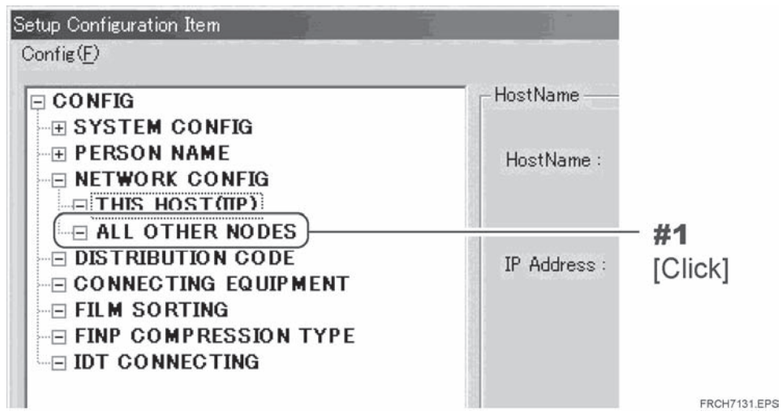
1. **Start the Service Utility.**

☞ **{FCR XG-1/CR CL Service Manual/Maintenance Utility (MU)/1. Starting and Exiting the Service Utility}**

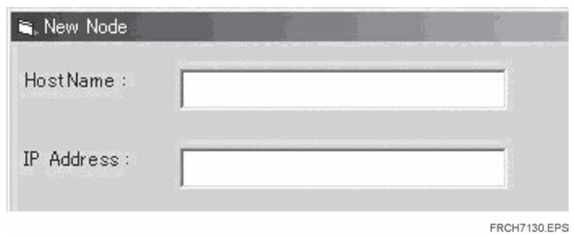
2. **Click on [Setup Configuration Item].**



3. **Click on [ALL OTHER NODES] of [NETWORK CONFIG].**



4. **Click on** New **.**



→ The "New Node" dialog box appears.

5. **Enter the host name (ru0) of the RU in** HostName : **and its IP address (172.16.1.11) in** IP Address : **.**

6. **Select** FRUP **in the "Add Node" field, and click on** OK **.**

→ The "FRUP Setup" screen appears.

7. **Check** CASSETTE **in the "Attribute" field (** → **).**

8. **Type "ru0" in** ButtonCaption : **.**

◇ *REFERENCE* ◇

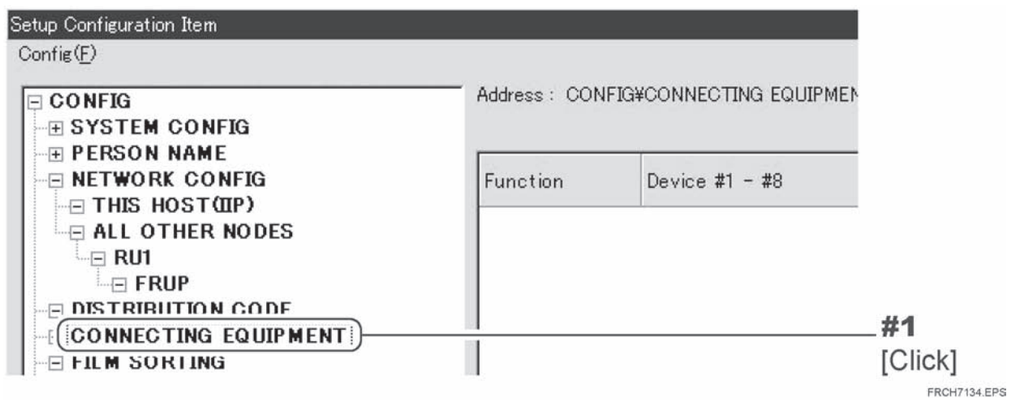
The name should not necessarily be the same as the host name.

9. **Click on** OK **.**

→ Registering the network information is now completed.

3. Registering the Machine Information (CONNECTING EQUIPMENT)

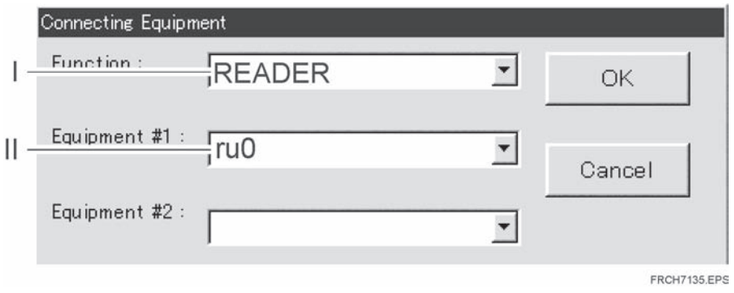
1. **Click on [CONNECTING EQUIPMENT] in the "Setup Configuration Item" window.**



2. **Click on** New **.**

→ The "Connecting Equipment" dialog box appears.

3. **Register the machine information as shown below.**



I. Select "Reader".
II. Select the host name (e.g., ru0).
III. If several RU's are connected, select the second and subsequent host name(s) in "Equipment #2" and so on.

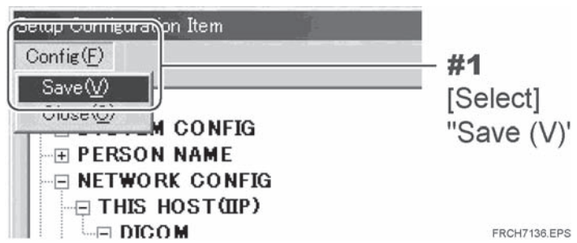
4. **Click on** OK **.**

→ Registering the machine information is now completed.

The "Setup Configuration Item" window appears back on screen.

4. Saving Configuration and Exiting Service Utility

1. **From the "Config (F)" menu in the "Setup Configuration Item" window, select "Save (V)".**



→ The save confirmation window appears.

2. **Click on** Yes **.**

→ The setup is saved.

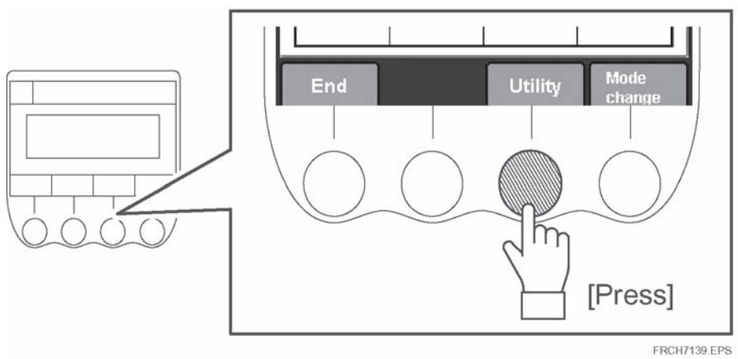
3. **From the "Config (F)" menu, select "Close (C)".**

→ The "Service Utility" window appears back on screen.

4. **Exit the Service Utility.**

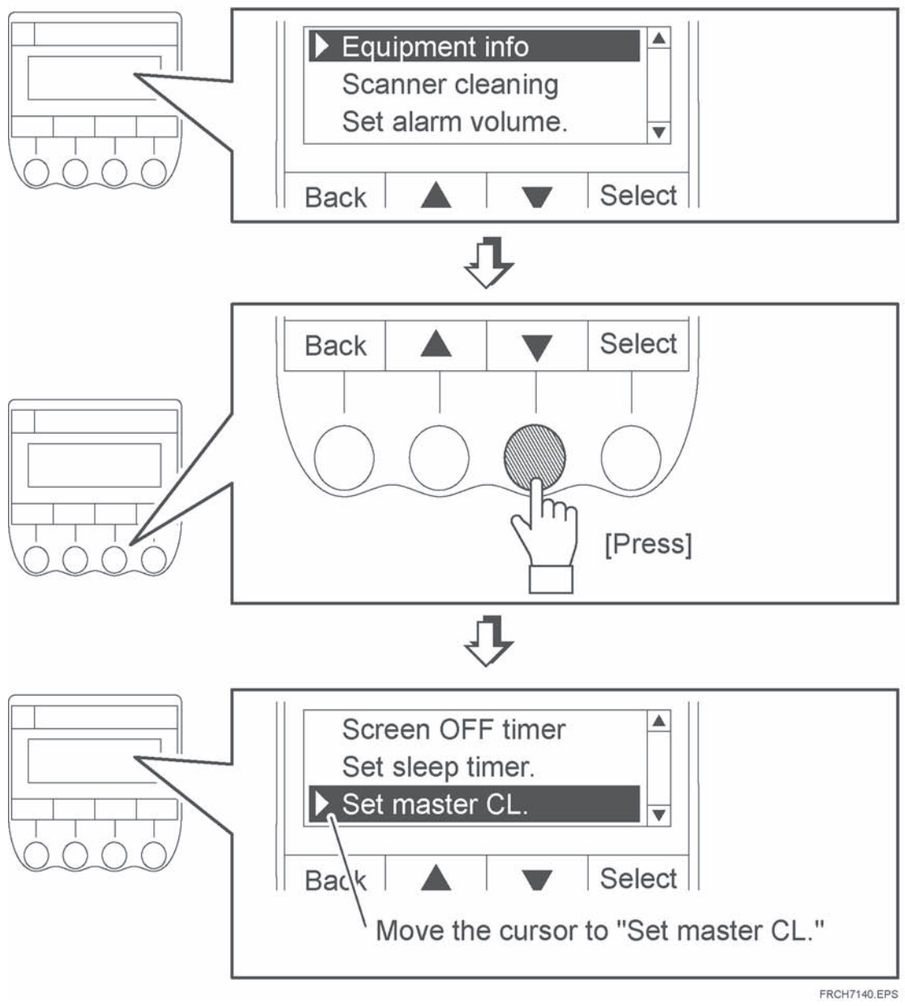
5. Verifying Switching of Master CL

1. **Turn OFF the power of the RU.**
2. **Turn ON the power of the RU.**
3. **Press the [Utility] button on the operation panel.**

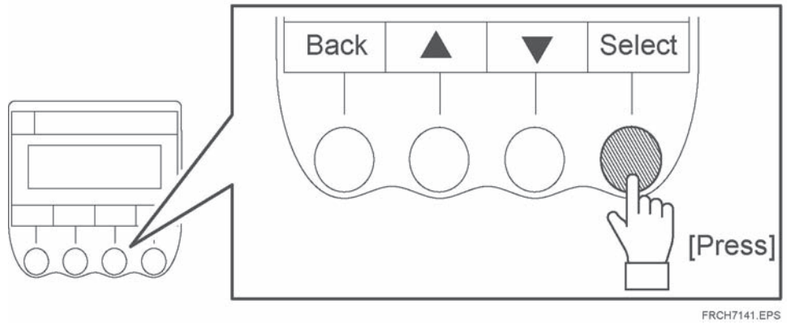


→ The “Utility” window appears.

4. **Press the ▼ button, and select “Set master CL”.**

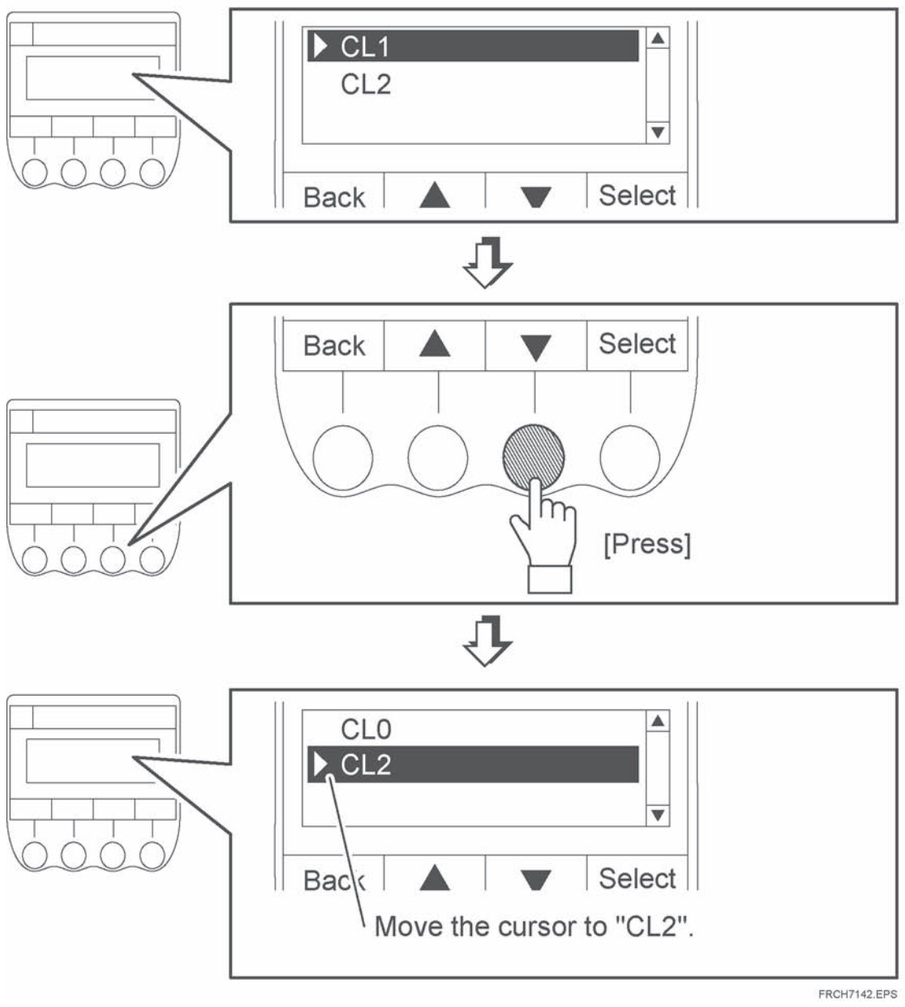


5. **Press the [Select] button.**



→ The “Select master Console” window appears.

6. **Press the [▼] button, and select "CL2".**



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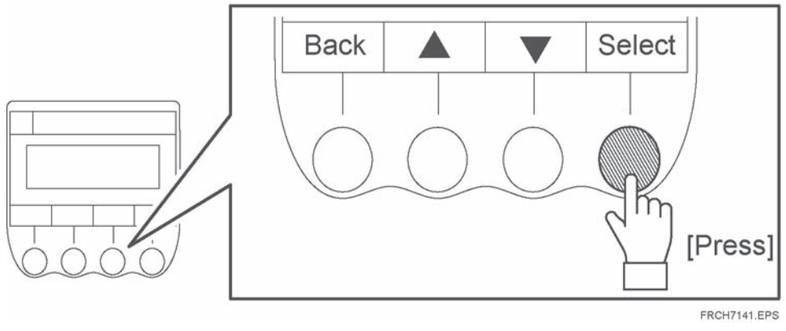
7. **Press the [Select] button.**



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◇ *REFERENCE* ◇

The power of the RU automatically turns OFF about 1 minute after the master CL is set.

8. **Turn ON the power of the RU.**

9. **Perform reading, and make sure that the image is transferred to the master CL.**

Appendix 5. Changing the RU's IP Address

This appendix describes the procedure for using the machine with the RU's IP address changed.

1. Starting the machine Maintenance Utility

1. **Start the machine Maintenance Utility as directed under "8.1 Starting the Machine Maintenance Utility."**

   ☞ **{IN:8.1_Starting the machine Maintenance Utility}**

2. Setting the RU's IP address

1. **Change the RU's IP address as directed under "8.2 Setting the IP Address of the RU."**

   ☞ **{IN:8.2_Setting the IP Address of the RU}**

3. Setting the FTP server IP address

1. **Change the RU's FTP server IP address as directed under "8.3 Setting the IP Address of the FTP Server."**

   ☞ **{IN:8.3_Setting the FTP server IP address}**

2. **Reinstall the RU software as directed under "Appendix 6. Reinstalling the RU Software."**

◆ ***INSTRUCTION*** ◆

After the RU's IP address is changed, be sure to reinstall the RU software.

☞ ***{IN: Appendix 6._Reinstalling the RU Software}***

Appendix 6. Reinstalling the RU Software

This appendix describes the RU software reinstallation procedure that is performed when, for instance, the machine is to be used with the RU's IP address changed or the RU to be installed is improperly set up.

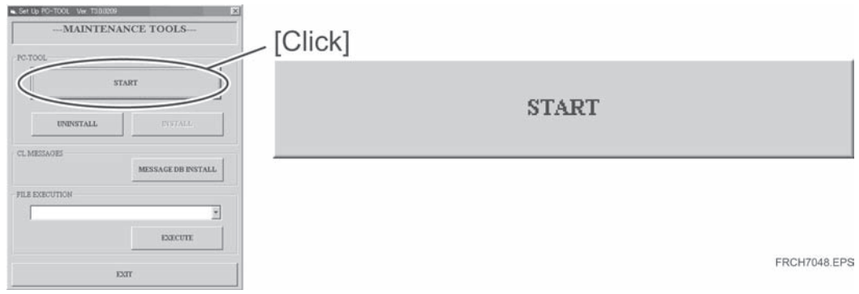
To reinstall the RU software, first delete the RU registered in the RU PC-TOOL, and then install the RU software.

1. Deleting an Installed RU

1. **Insert the RU-APL CD-ROM into the CR Console.**

→ The "Set Up PC-TOOL" window automatically opens.

2. **Click on [START].**



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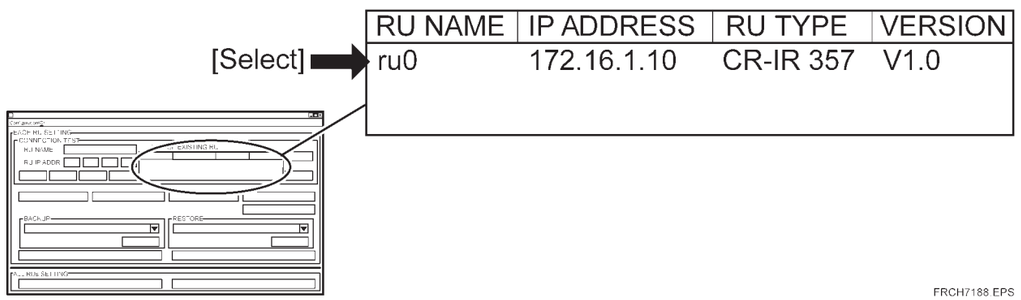
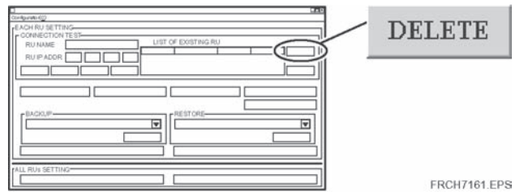
→ The "RU PC-TOOL" window opens.

3. **From "LIST OF EXISTING RU," select an RU.**



FRCH7188.EPS

4. **Click on [DELETE].**



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◆ ***NOTE*** ◆

If you click [DELETE] without inserting the RU-APL CD-ROM into the CR Console, the following error message appears. If the error message appears, insert the RU-APL CD-ROM into the CR Console and then repeat steps 2 and beyond.

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5. **Click on [OK].**

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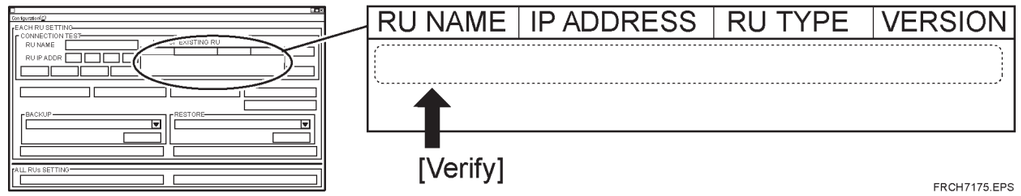
6. **Verify that the RU selected in step 3 is deleted from "LIST OF EXISTING RU."**



FRCH7175.EPS

2. Reinstalling the RU Software

Reinstall the RU software.
For the RU software reinstallation procedure, see "Appendix 7. Installing the RU Software."

☞ **{IN: Appendix 7._Installing the RU Software}**

Appendix 7. Installing the RU Software

This appendix describes the procedure for installing the RU software.
Before installing the RU software, you have to run a network check from the RU's machine Maintenance Utility to verify the connection to the CR Console.

1. Verifying the connection to the CR Console

1. **Run a network check as directed under "8.4 Checking the Connection with the CR Console."**

   ☞ **{IN:8.4_Checking the Connection with the CR Console}**

2. Installing the RU PC-TOOL

◆ ***NOTE*** ◆

If the RU PC-TOOL is already installed on the CR console, the step below need not be performed. In such an instance, skip to "Appendix 7-3. Installing the RU software."

☞ ***{IN: Appendix 7-3_Installing the RU Software}***

1. **Install the RU PC-TOOL as directed under "8.5 Installing the RU PC-TOOL."**

   ☞ **{IN:8.5_Installing the RU PC-TOOL}**

3. Installing the RU Software

1. **Install the RU software as directed under "8.6 Installing RU Software."**

   ☞ **{IN:8.6_Installing RU Software}**

Appendix 8. Corrective Procedure to be Performed after Improper RU PC-TOOL Installation

If "For Client PC" is inadvertently chosen when the RU PC-TOOL is to be installed, install the RU PC-TOOL as directed below.

When the RU PC-TOOL installation procedure is improperly performed, use either of the following corrective procedures:

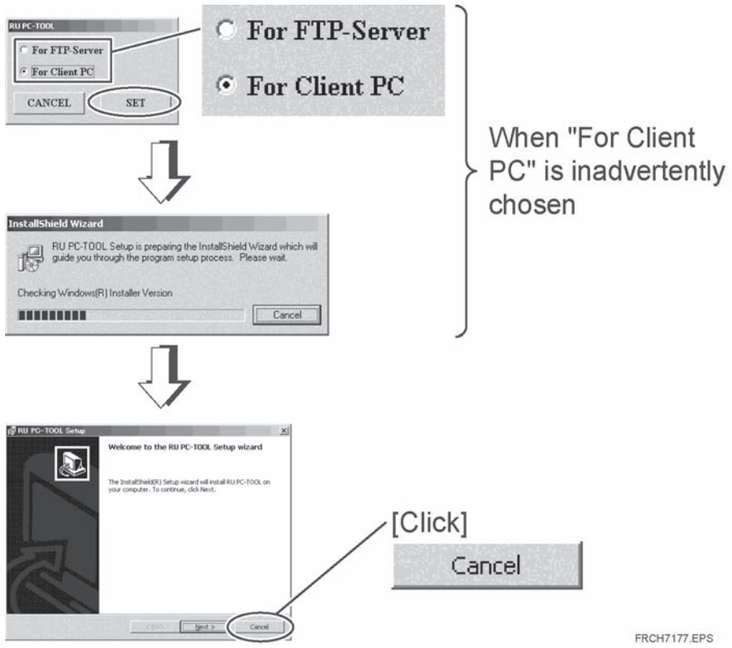
- **Abort the installation process and then perform the installation procedure again.**
  If you find in the middle of the RU PC-TOOL installation process that "For Client PC" is inadvertently chosen, you can abort the installation process.
  In this instance, abort the installation process and install the RU PC-TOOL. For details on the procedure, see "Appendix 8-1 Corrective Procedure 1."
  ☞ **{IN: Appendix 8-1_Corrective Procedure 1}**

- **Delete the CLIENT PC-TOOL and then perform the installation procedure again.**
  If you complete the RU PC-TOOL installation process with "For Client PC" inadvertently chosen, the CLIENT PC-TOOL is installed.
  In this instance, delete the CLIENT PC-TOOL with the RU-APL CD-ROM and then install the RU PC-TOOL. For details on the procedure, see "Appendix 8-2 Corrective Procedure 2."
  ☞ **{IN: Appendix 8-2_Corrective Procedure 2}**

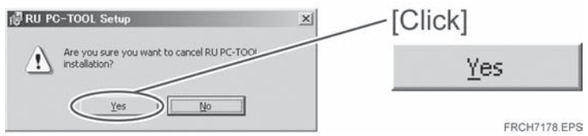
1. Corrective Procedure 1

This section describes the procedure for aborting the installation process and installing the RU PC-TOOL.

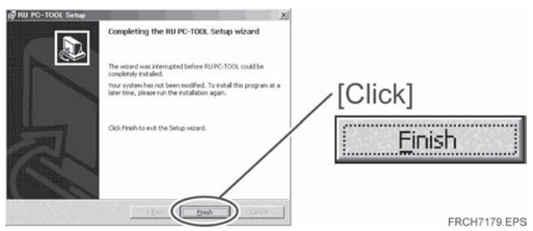
1. **If you clicked [SET] with "For Client PC" chosen, click [Cancel] in a window that opens next.**



2. **When a message appears to ask whether you want to cancel the installation process, click [Yes].**



3. **Click on [Finish].**


RU PC-TOOL Setup
Completing the RU PC-TOOL Setup wizard
The wizard was interrupted before RU PC-TOOL could be completely installed.
Your system has not been modified. To install this program at a later time, please run the installation again.
Click Finish to exit the Setup wizard.
[Click]
Finish
FRCH7179.EPS

4. **Install the RU PC-TOOL as directed under "Appendix 7-2 Installing the RU PC-TOOL."**

☞ **{IN: Appendix 7-2_Installing the RU PC-TOOL}**

2. Corrective Procedure 2

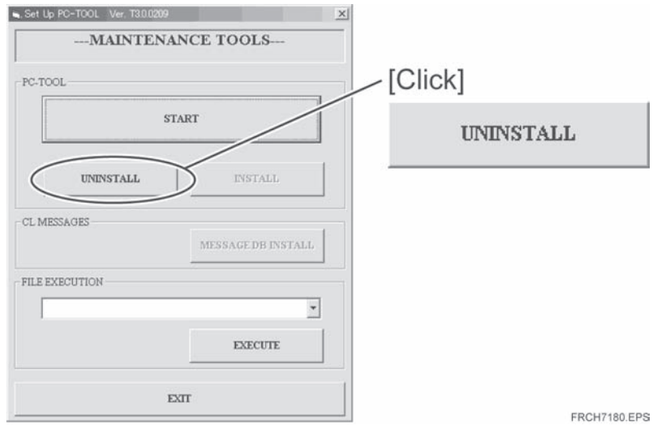
This section describes the procedure for deleting the CLIENT PC-TOOL with the RU-APL CD-ROM and installing the RU PC-TOOL.

1. If the CLIENT PC-TOOL is running, exit it.

2. Insert the RU-APL CD-ROM into the CR Console.

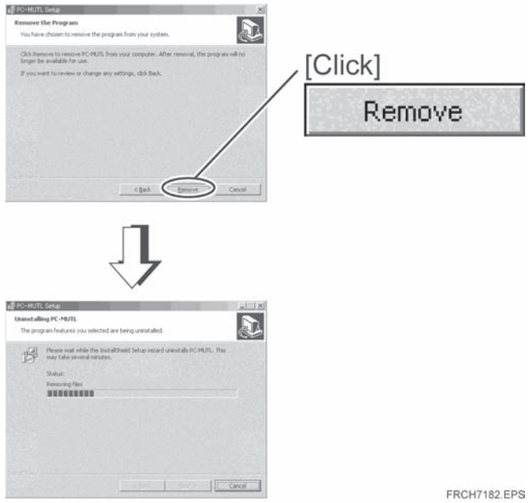
→ The "Set Up PC-TOOL" window automatically opens.

3. Click on [UNINSTALL].

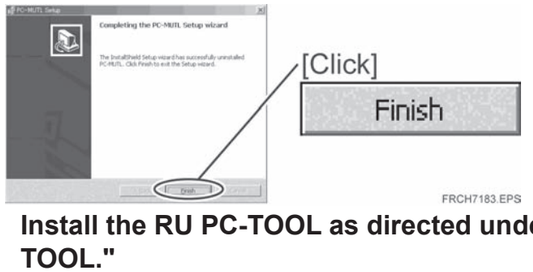


4. Click on [NEXT].

5. Click on [Remove].



6. When the uninstallation process is completed, click [Finish].



7. Install the RU PC-TOOL as directed under "Appendix 7-2 Installing the RU PC-TOOL."

☞ **{IN: Appendix 7-2_Installing the RU PC-TOOL}**

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